McKee Door Sales

Table of Contents

Material Safety Data Sheets for Jobsite

PDF Version

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McKee
Door Sales of Columbus, Inc.

Hazard Communication Program

Introduction

This written program, along with an inventory of hazardous materials and material safety data sheets will be available from the jobsite supervisor and at the company office for review by employees, their representatives, OSHA and contractors or employees of other companies doing work in and around our work area.

Responsibilities

The supervisor has the responsibility to train employees on the health hazards that may be encountered on the jobsite. All new employees go through general awareness training when they are hired. Hazards specific to the job need to be addressed by the supervisor. Material safety data sheets must be available for all materials on each jobsite.

Material Safety Data Sheets (MSDS)

Material Safety Data Sheets for all hazardous materials to which McKee Door Sales employees may be exposed will be available at each jobsite and/or at the company office. The MSDS's will also be available to subcontractors and employees of other companies doing work in or around our work area.

Copies of MSDS's will be made available upon request to employees.

MSDS Information: How to Utilize It

The MSDS is an information sheet on a material indicating the hazards associated with the material. The MSDS is the primary means of providing detailed hazard information. The entire communication program is built around the MSDS's for the hazardous materials used in the workplace.

The MSDS not only identifies the chemicals in a material, it also gives information about the physical and chemical properties and the hazards that using the substance presents. Physical hazards, particularly relating to fire and explosion, are explained. There is a section dealing with health hazards associated with exposure to the chemical, what signs or symptoms to look for and ways in which the chemical can get into the body to cause problems. It must also list OSHA exposure limits, which employers are mandated by law to follow, or suggested exposure limits of other groups. Information must also be included if the chemical is a known or suspected carcinogen. The standard also requires that information concerning the safe handling of the material, hygienic practices needed, clean-up procedures and protective measures curing maintenance, be given. There are sections that detail means of working with the material in a safe manner. These include engineering or other control methods used to keep exposures low, work practices that can be used to limit exposure, and personal protective equipment that should be used.

Terms and Explanations of Sections for a Typical MSDS

Section I - Identification

Manufacturing Facility, Company or Subsidiary - Gives the applicable facility(s) or subsidiary or division in which the product is manufactured.

Address - For the location of product manufacturer.

Phone - A telephone number provided for non-emergency contact regarding the particular product.

Date Of Preparation - Self-explanatory.

Product Name or Number - The appropriate product name, product code number or identifier under which the product is marketed.

Section II- Hazardous Ingredients

Chemical Components - The scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure & Applied Chemistry (IUPAC), or the Chemical Abstracts service (CAS) rules of nomenclature (except as provided for in trade secrets).

CAS Number - The identification number assigned by the Chemical Abstracts Service to a specific substance.

% Weight % Composition - The percentage, by weight, of each chemical component greater than 1% in the total product except those materials identified as carcinogens, in which case 0.1% in the total product is listed.

Section III - Physical Data

Boiling Point - The temperature at which a liquid changes to a vapor state at a given pressure. This is normally stated in degrees Fahrenheit at sea level pressure of 760 millimeters of mercury. The initial boiling point is generally considered for a mixture or the boiling range may be given.

Vapor Pressure - The pressure exerted by a saturated vapor above its own liquid in a closed container and is normally expressed in millimeters of mercury at 68 degrees Fahrenheit or 20 degrees Celsius.

Vapor Density - A value that expresses the ration of density of a vapor to the density of air. (The vapors of most flammable liquids are heavier than air.) Values should be given in the ambient temperature range of 60 - 90 degrees Fahrenheit, to facilitate usage.

Solubility In Water - The amount of material that can be dissolved in a given volume of water, expressed in terms of milligrams per liter, or the following general terms:

- Negligible - Less than 0.1%
- Moderate - 1% to 10%
- Complete - In all portions
- Slight - 0.1% to 1%
- Appreciable - More than 10%

Specific Gravity - The ratio of the weight of a volume of material to the weight of an equal volume of water of 39.2 degrees Fahrenheit. This determines whether the material floats or sinks in water.

Percent Volatile By Volume - The percentage of liquid or solid that will evaporate at an ambient temperature of 70 degrees Fahrenheit. This applies to solids, such as naphthalene.

Evaporation Rates - The rate at which particular material will vaporize when compared to the rate of vaporization of known material, usually butyl acetate or ethyl ether.

Ph Information - The Ph of the material or a saturated water solution.

Appearance and Odor - Brief descriptions of the substance at normal room temperature and at normal atmospheric conditions, e.g., colorless liquid with aromatic odor.

Section IV - Fire And Explosion Hazard Data

Flash Point - The lowest temperature in degrees Fahrenheit at which a liquid will give off enough flammable vapor to ignite.

Method Used - Tafliabue Closed Tester, Pensky-Martens Closed Tester, or Setaflash Closed Tester, are the more common methods in use.

Flammability Limits (% Vol) LEL and UEL - Indicates the rate of concentrations over which a vapor mixed with the proper proportions of air will flash or explode if an ignition source is present. The data are indicated from the lower explosive limit (LEL) to the upper explosion limit (UEL) and are expressed in percent by volume of fuel vapor in the air. These values are usually for normal ambient conditions of temperature and pressure.

Autoignition Temperature - The temperature at which a material will self-ignite and sustain combustion in the absence of a spark or flame.

Extinguisher Media - The fire fighting substance to be used to control the specific material, in the event of a fire. Generally named by its generic name, such as fog, foam, water, alcohol foam, carbon dioxide, dry chemical, etc.

Special Fire Fighting Procedures - Any specific handling procedures in fire fighting and personal protective equipment that should be used. Indicates when certain fire fighting substances have been found to be unsafe and/or ineffective to control a specific burning material.

Unusual Fire and Explosion Hazards - Hazards that might occur as a result of overheating or burning a specific material and includes chemical reactions or changes in chemical composition, or any special hazards involved in extinguishing the burning material.

Section V - Reactivity Data

Stability (Conditions to Avoid) - Indicates whether a material is stable or unstable under reasonable conditions of storage, handling, use or misuse. If unstable, also mentioned are the conditions that could result in a dangerous reaction or decomposition. Example: shock from dropping, temperature above 150 degrees Fahrenheit.

Incompatibility - List of common materials (including contaminants) with which the material could reasonably be expected to be in contact with and which may produce a reaction or decomposition that will release amounts of energy, flammable vapor or gas, or toxic vapor or gas. The conditions to avoid should include such items as extreme temperatures, jarring, etc.

Hazardous Decomposition Products - List any hazardous materials that may be produced in dangerous amounts by oxidation, by heating in welding or burning. Thermal decomposition products, such as CO, CO2 and hydrochloric acid from vinyl chloride plastics, are examples.

Hazardous Polymerization (Conditions to Avoid) - Polymerization is a chemical reaction in which two or more molecules of a substance combine to

form repeating structural units of the original molecule, which results in an energy level change. A hazardous polymerization, therefore, is a reaction with an extremely high or uncontrolled release of energy. Indicates where provided, whether a hazardous polymerization can occur and also notes the conditions that can be expected to start, such as polymerization, as well as the time period in which polymerization inhibitors in the material may be used up.

Section VI - Health Hazard Data

Primary Route(s) Of Entry - The most common routes that a material enters the body, such as inhalation, ingestion or skin absorption.

Effects Of Exposure - For each of the four most common routes of entry (inhalation, ingestion, eye contact, skin contact), the most common sensations or symptoms are listed that a person might expect to experience from exposure to a material or its ingredients.

Exposure Limits:

- OSHA, PEL and ACGIH TLV - Indicates the OSHA permissible exposure limit (often referred to as PEL), ACGIH Threshold Limit Value (TLV), or any other exposure limit used or recommended by the material manufacturer, importer or employer.
- TLV - Represents the threshold limit value that indicates the highest airborne concentration of a substance to which nearly all adults can be repeatedly exposed without experiencing adverse effects. Threshold Limit Value may be expressed in parts of material per million (PPM), part of air by volume for gasses and vapors, or as milligrams or material per cubic meter (Mg/M3) of air for dust and mist, as well as for gasses and vapors.
- PEL - Represents permissible exposure limit values for over 400 materials that are regulated by OSHA. Values are again generally expressed as PPM or mg/m3. These concentration values generally reflect an eight-hour time weighted average that employees may be exposed to. In some cases, acceptable ceiling concentrations or acceptable maximum peak concentrations above the acceptable ceiling concentration, is used.
- NTP Listed Or IARC Listed - Indicates any material listed as carcinogen by the National Toxicology Program (NTP) or the International Agency on the Research of Cancer (IARC).
- Emergency and First Aid Procedures - These are instructions for the treatment, in an emergency, of a victim of inhalation, ingestion, eye or skin contact (all primary routes of entry). The procedures are for emergency use only and a physician should treat the victim as soon after exposure as possible.

Section VII - Special Handling Information

This section includes any generally applicable control measures, such as appropriate ventilation controls and personal protective equipment. The type of personal protective equipment to be used, full-face piece respirator or PVC gloves is included.

If ventilation is required, the appropriate type of system is stated. Where respiratory protection is required, the class of device acceptable for use is listed, as well as special conditions or limitations. If gloves are needed, any

special glove designed or special material, which is impermeable to the material, is listed. Any eye protection other than normal safety glasses is also included.

Section VIII - Spill, Leak and Disposal Procedures

Action To Take For Spills (Use Of Appropriate Safety Equipment) - Included are the methods that must be used to control or clean up a release or spill, including data pertinent to precaution (avoid breathing gasses, remove ignition sources, etc.) or equipment necessary (plastic shovels, etc.).

Waste Disposal Method - Included are both the acceptable and prohibited manner of disposal of spilled solids or liquids.

Section IX Special Precautions/Additional Information

Precautions To Be Taken In Handling And Storage - Included are any additional or special data not otherwise noted in this form regarding handling, storage, special packaging requirements, etc. Any additional precautions necessary can be listed in "Additional Information".

DOT Hazardous Material Proper Shipping Name, DOT Hazard Class And DOT Identification Number - The designation which is appropriate under DOT Hazardous Material Rules set forth in 49 CFR 172.101.

EPA Hazardous Waste Number - The four-digit identification number for any commercial material product having the generic name listed in paragraphs (3) of (f) of Section 261.33 of the RCRA Regulations. Part III (Identification and Listing of Hazardous Waste).

Additional Information - For any additional appropriate information not included in other sections of the MSDS. Examples might include, "fibers are electrical conductive and should not be released in the vicinity of electrical transmission lines".

All hazardous products we use on a jobsite must be labeled. Products we receive and those we send away from a job must also be labeled. It is the responsibilities of all employees to be sure all hazardous products are labeled. All labels must be legible and in English.

The labeling requirements of hazardous products used in the workplace per 29 CFR 1926.59(f)(5) are:

- To identify the hazardous "product" contained therein.
- Provide appropriate hazard warnings (or alternatively use combinations of words, pictures, symbols) that generally inform the reader of the hazards of the materials. Affixed labels are not required on stationary containers, as long as an alternate method identifies the contents and its hazards.

The manufacturer, importer or distributor must ensure that each container of hazardous material(s) arriving at the workplace is labeled, tagged or marked with the following information:

- Identification of the hazardous material.
- Appropriate hazard warnings.
- Name and address of the manufacturer, importer or other responsible party.

The following guidelines must be followed to make sure containers are properly labeled:

- Incoming material must be labeled. If material comes in unlabeled, notify your supervisor immediately.
- Unless products are remarked, existing labels shall not be removed or defaced.
- If new and significant information regarding the hazards of a product comes to the attention of the manufacturer, importer, distributor or employer, then this information must immediately be communicated to the employee(s) potentially exposed to the material, as well as incorporated onto the existing label, within three months.

Training

All employees, including temporary and new employees, will be appropriately informed of:

- The overall requirements of the standard.
- Any operations in the work area where hazardous materials are present.
- The location and availability of the written Hazard Communication Program, including the required inventory list(s) of hazardous materials and MSDS's.

Additionally each employee will be trained in the following:

- Various method and observations that may be used to detect the presence or release of a hazardous material in the work area (such as monitoring conducted, visual appearance or odor of hazardous materials when being released, etc.).
- The physical and health hazards of the materials in the work area.
- Measures the employees can take to protect themselves from these hazards, including special procedures McKee Door Sales has implemented to protect employees from exposure to hazardous materials, such as appropriate work practices and personal protective equipment to be used.

Initial training will encompass the standard itself, what it means to each employee and how each employee can use the information provided to protect himself/herself. Thereafter, periodic safety meetings will be used to train employees on the specific hazardous materials that are used on the jobsite.

New employees will be trained on the hazards with which they will be working or potentially exposed to, as well as the basics of the standards.

Employees working with or potentially exposed to any new or changed material, will be trained before working with the new material. The addition of new materials into the work place will be discussed during the weekly safety meeting or privately with those handling the new material.

Clorox Professional Products Company
1221 Broadway
Oakland, CA 94612
Tel. (510) 271-7000

Material Safety Data Sheet

I Product:	CLOROX COMMERCIAL SOLUTIONS® FORMULA 409® CLEANER DEGREASER DISINFECTANT
Description:	CLEAR, COLORED LIQUID WITH A CITRUS/FLORAL ODOR

Other Designations	Distributor	Emergency Telephone Nos.
EPA Reg. No. 67619-10	Clorox Professional Products Company 1221 Broadway Oakland, CA 94612	For Medical Emergencies call: (800) 446-1014 For Transportation Emergencies Chemtrec (800) 424-9300

II Health Hazard Data

CAUTION: EYE IRRITANT. Avoid eye and prolonged skin contact. Do not ingest.

FIRST AID:

EYE CONTACT: Immediately flush eyes with plenty of water. If irritation persists, see a doctor.

SKIN CONTACT: Wash with water. Seek medical attention if irritation develops or persists.

INGESTION: Drink a glassful of water. Call a physician. Do not induce vomiting. Do not give anything by mouth to an unconscious or convulsing person.

INHALATION: If breathing problems develop remove to fresh air. Seek medical attention if respiratory irritation develops or breathing becomes difficult.

KEEP OUT OF REACH OF CHILDREN

III Hazardous Ingredients

Ingredients	Concentration	Worker Exposure Limit
n-Alkyl (C12-16) Dimethylbenzyl Ammonium Chloride CAS #68424-85-1	0.3-0.6%	None Established
n-Propoxypropanol CAS # 1569-01-3	0.5 - 2%	None Established
Monoethanolamine CAS #141-43-5	0.5 – 1.5%	3 ppm - TLV-TWA[a] 3 ppm - PEL[b] 6 ppm - TLV-STEL[c]

[a]TLV-TWA = ACGIH Threshold Limit Value - Time Weighted Average

[b]PEL = OSHA Permissible Exposure Limit - Time Weighted Average

[c]TLV-STEL = ACGIH Threshold Limit Value - Short Term Exposure Limit

None of the materials in this product are on the IARC, OSHA, or NTP carcinogen lists.

IV Special Protection and Precautions

Hygienic Practices: Wash hands after direct contact. Do not wear product-contaminated clothing for prolonged periods.

Engineering Controls: Use general ventilation to minimize exposure to product vapor or mist.

Personal Protective Equipment: Wear safety glasses. Wear gloves for repeated or prolonged skin contact.

V Transportation and Regulatory Data

DOT/IATA/IMDG: Not restricted.

EPA - SARA Title III/CERCLA:
This product is not reportable under Sections 311/312 or 313; and contains no chemicals which are regulated under Section 304/CERCLA.

TSCA Status: All components of this product are on the TSCA Inventory.

VI Spill Procedures/Waste Disposal

Spill Procedures: Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

Waste Disposal: Dispose of in accordance with all applicable federal, state, and local regulations.

VII Reactivity Data

Stable under normal use and storage conditions.

VIII Fire and Explosion Data

Flash Point: >200 F

Fire Extinguishing Agents: Foam, Dry Chemical, Water, CO_2

IX Physical Data

pH.....10.5
Solubility in Water.....complete
Specific Gravity (H_2O=1).....~1.0

DATA SUPPLIED IS FOR USE ONLY IN CONNECTION WITH OCCUPATIONAL SAFETY AND HEALTH DATE PREPARED 6/06

AIR LIQUIDE

MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

1. PRODUCT IDENTIFICATION

CHEMICAL NAME; CLASS: ACETYLENE

SYNONYMS: Ethine; Ethyne
CHEMICAL FAMILY: Alkane (hydrocarbon)
FORMULA: C_2H_2

	Document Number: 10002
PRODUCT USE:	For chemical synthesis, manufacture of carbon black, welding, cutting, and for general analytical or synthetic chemical uses.
MANUFACTURED/SUPPLIED FOR:	AIR LIQUIDE
ADDRESS:	2700 Post Oak Drive Houston, TX 77056-8229
EMERGENCY PHONE:	CHEMTREC: 1-800-424-9300
BUSINESS PHONE:	
General MSDS Information:	1-713/896-2896
Fax on Demand:	1-800/231-1366

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product is a colorless, flammable gas, with a garlic-like odor, that is dissolved in acetone. Acetylene poses an extreme fire hazard when accidentally released. The main health hazard associated with a release of Acetylene is asphyxiation by displacement of oxygen. Acetylene is lighter than air, and may spread long distances. Distant ignition and flashback are possible. Flame or high temperature impinging on a localized area of the cylinder of this product can cause the cylinder to rupture violently without activating the cylinder's relief devices. Acetylene is an asphyxiant and presents a significant health hazard by displacing the oxygen in the atmosphere. Provide adequate fire protection during emergency response situations. Acetylene may decompose explosively at elevated temperatures and pressures.

2. HAZARD IDENTIFICATION (Continued)

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE: The most significant route of over-exposure for this product is by inhalation.

INHALATION: Acetylene, at concentration below the LEL of 2.5% (25000 ppm), is essentially non-toxic. At higher concentrations, Acetylene has anesthetic effects. Symptoms of over-exposure to such high concentrations may include drowsiness, dizziness, and a general feeling of weakness.

High concentrations of this gas can cause an oxygen-deficient environment. It should be noted that before suffocation could occur, the lower flammability limit of Acetylene in air would be exceeded; possibly causing an oxygen-deficient and explosive atmosphere. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of over-exposure, death may occur. The following effects associated with various levels of oxygen are as follows:

CONCENTRATION	SYMPTOM OF EXPOSURE
12-16% Oxygen:	Breathing and pulse rate increased, muscular coordination slightly disturbed.
10-14% Oxygen:	Emotional upset, abnormal fatigue, disturbed respiration.
6-10% Oxygen:	Nausea and vomiting, collapse or loss of consciousness.
Below 6%:	Convulsive movements, possible respiratory collapse, and death.

OTHER POTENTIAL HEALTH EFFECTS: Acetylene is generally non-irritating to the skin and eyes. Acetylene is dissolved in a solvent, usually acetone. Any skin or eye contact with the solvent may be slightly irritating to contaminated skin or eyes.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Over-exposure to Acetylene may cause the following health effects:

ACUTE: The most significant hazard associated with this product is inhalation of oxygen-deficient atmospheres. Symptoms of oxygen deficiency include respiratory difficulty, ringing in ears, headaches, shortness of breath, wheezing, headache, dizziness, indigestion, nausea, and, at high concentrations, unconsciousness or death may occur. The skin of a victim of over-exposure may have a blue color.

CHRONIC: There are currently no known adverse health effects associated with chronic exposure to Acetylene.

TARGET ORGANS: Respiratory system, central nervous system.

3. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			OTHER
			TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	
Acetylene	74-86-2	>98-99.6%	Simple Asphyxiant	NE	NE	NE	NE	NIOSH REL: 2500 ppm, ceiling
Maximum Impurities		<2-.4%	None of the trace impurities in this product contribute significantly to the hazards associated with the product. All hazard information pertinent to this product has been provided in this Material Safety Data Sheet, per the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and State equivalent standards.					

This material is classified as hazardous under OSHA regulations in the United States and the WHMIS in Canada.

NE = Not Established C = Ceiling Limit See Section 16 for Definitions of Terms Used.

NOTE: all WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-2004 format.

4. FIRST-AID MEASURES

RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO THIS PRODUCT WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus and Fire-Retardant clothing should be worn. Adequate fire protection must be provided during rescue situation.

Remove victim(s) to fresh air, as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary.

SKIN and EYE EXPOSURE: If contact is made with the solvent, flush area for 15 minutes with water.

Victim(s) must be taken for medical attention. Take copy of label and MSDS to physician or other health professional with victim(s).

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not applicable to a flammable gas.

AUTOIGNITION TEMPERATURE @ 1 atmosphere: 305 °C (581°F)

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL):	2.5%
Upper (UEL):	82.0%

FIRE EXTINGUISHING MATERIALS: Extinguish fires of this gas by shutting-off the source of the gas, if possible. Use water spray to cool fire-exposed cylinders, structures and equipment.

UNUSUAL FIRE AND EXPLOSION HAZARDS: When involved in a fire, this material may decompose and produce toxic gases including carbon monoxide and carbon dioxide. Acetylene is extremely flammable and can readily form explosive mixtures with air over a very wide range. An explosion hazard exists in confined spaces when the gas is released. An explosive decomposition of pure acetylene can occur under certain conditions of elevated pressure, temperature and container size.

DANGER! Fires impinging (direct flame) on the outside surface of cylinders of Acetylene can be very dangerous. Direct flame exposure on the cylinder wall can cause a violent rupture of the cylinder, releasing the contents into a massive fireball and explosion of released Acetylene. The resulting fire and explosion can result in severe equipment damage and personnel injury or death over a large area around the cylinders. For fires in large areas, use unmanned hose holder or monitor nozzles to apply water on those cylinders involved as well as surrounding cylinders to keep them cool. If this is not possible, withdraw from area and allow fire to burn.

Explosion Sensitivity to Mechanical Impact: Not sensitive.
Explosion Sensitivity to Static Discharge: Static discharge may cause this product to ignite explosively, if released.

SPECIAL FIRE-FIGHTING PROCEDURES: The best fire-fighting technique may be simply to let the burning gas escape from the pressurized cylinder or piping system. If possible, stop the leak before extinguishing fire. If the fire is extinguished before the leak is sealed, the still-leaking Acetylene could explosively re-ignite without warning and cause extensive damage, injury, or fatality. In this case, increase ventilation (in enclosed areas) to prevent flammable or explosive mixture formation. Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Because of the potential for cylinder rupture, evacuation of non-emergency personnel is essential. If water is not available for cooling or protection of cylinders and exposures, evacuate the area. The North American Emergency Response Guidebook (Guide #116) recommends 0.5 miles.

6. ACCIDENTAL RELEASE MEASURES

LEAK RESPONSE: Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a release, clear the affected area, protect people, and respond with trained personnel. Adequate fire protection must be provided. Minimum Personal Protective Equipment should be **Level B: fire-retardant protective clothing, gloves and Self-Contained Breathing Apparatus.** Use only non-sparking tools and equipment.

If possible, close the Acetylene cylinder valve to stop the leak. If this does not stop the release (or if it is not possible to safely reach the cylinder valve), allow the gas to release in-place, or move the cylinder to a safe area, away from ignition sources. Extreme caution should be used when moving a leaking cylinder of Acetylene.

Monitor the surrounding area for oxygen and combustible gas levels. Combustible gas concentrations must be below 10% of the LEL (2.5%), and the oxygen content above 19.5% before entry of personnel into the area, without Self-Contained Breathing Apparatus and protective equipment.

6. ACCIDENTAL RELEASE MEASURES (Continued)

THIS IS AN EXTREMELY FLAMMABLE GAS. Protection of all personnel and the area must be maintained.

7. HANDLING AND STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of this product could occur without any significant warning symptoms.

STORAGE AND HANDLING PRACTICES: Cylinders should be stored upright (with valve-protection cap in place) and firmly secured to prevent falling or being knocked over. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting. Cylinders should be stored in dry, well-ventilated areas away from sources of heat, ignition and direct sunlight. Keep storage area clear of materials which can burn. Do not allow area where cylinders are stored to exceed 52 °C (125 °F). Store containers away from heavily trafficked areas and emergency exits. Store away from process and production areas, away from elevators, building and room exits or main aisles leading to exits. Protect cylinders against physical damage. Post "No Smoking or Open Flames" signs in storage or use areas.

In the United States, cylinders of Acetylene stored inside buildings at locations of use must be limited to a total capacity of 2500 ft^3 (70m^3). In Canada, the limit is for a total capacity of 2160 ft^3 (60m^3) in non-sprinklered buildings and 6130 ft^3 (170 m^3) in buildings with sprinkler systems. After these quantities are exceeded, a special room must be built for the storage of Acetylene. The installation of leak detection and alarms for storage areas of Acetylene must be considered.

Storage areas must meet national electrical codes for Class 1 Hazardous Areas. Have appropriate extinguishing equipment in the storage area (i.e. sprinkler system, portable fire extinguishers).

Cylinders should be separated from oxygen cylinders, or other oxidizers, by a minimum distance of 20 ft., or by a barrier of non-combustible material at least 5 ft. high, having a fire-resistance rating of at least 0.5 hours. Isolate from other incompatible chemicals (refer to Section 10, Stability and Reactivity).

It is important to note that Acetylene, in its free state, under pressure, may decompose violently. The higher the pressure, the smaller the initial force necessary to cause a reaction. Therefore, **never use Acetylene outside the cylinder at pressures in excess of 15 psig.** If pressures exceeding this limit are utilized, special explosion and fire safety precautions must be implemented.

Keep the smallest amount on-site as is necessary. Full and empty cylinders should be segregated. Use a first-in, first-out inventory system to prevent full containers from being stored for long periods of time.

Use non-sparking ventilation systems, approved vapor-tight or explosion-proof equipment, and appropriate electrical systems. Electrical equipment used in gas-handling operations, or located in storage areas, should be non-sparking or explosion proof. Use a check valve in the discharge line to prevent hazardous backflow. Never tamper with pressure relief devices in valves and cylinders.

SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS: Compressed gases can present significant safety hazards. The following rules are applicable to work situations in which cylinders are being used:

Before Use: Move cylinders with a suitable hand-truck. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap (where provided) in-place until cylinder is ready for use.

During Use: Use designated CGA fittings and other support equipment. Do not use adapters. Use piping and equipment adequately designed to withstand pressures to be encountered. Do not heat cylinder by any means to increase the discharge rate of the product from the cylinder. Do not use oils or grease on gas-handling fittings or equipment. Do not "crack" valve open before connecting it, since ignition may occur. Leak check system with leak detection solution, never with flame. Immediately contact the supplier if there are any difficulties associated with operating cylinder valve. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings, doing so may damage valve, causing a leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Never strike an arc on a compressed gas cylinder or make a cylinder part of an electric circuit.

After Use: Close valve after each use and when empty. Replace valve protection cap. Mark empty cylinders "EMPTY".

NOTE: Use only DOT cylinders designed for acetylene storage. Earth-ground and bond all piping systems and equipment associated with this product.

For welding and brazing operations, refer to ANSI Z-49.1 "*Safety in Welding and Cutting*" and OSHA safety regulations for welding, cutting, and brazing (29 CFR 1910.252). In addition, see the National Fire Protection Association (NFPA) publication 51 *Oxygen Fuel Gas Welding and Cutting.*

7. HANDLING AND STORAGE (Continued)

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA: Use the proper connections, DO NOT USE ADAPTERS:

THREADED:	Over 50 cubic feet (1.39 m^3)	CGA 510
	Alternate:	CGA 300
	Between 35 and 75 cubic feet (2.08 m^3)	CGA 520
	Approximately 10 cubic feet (280 L)	CGA 200
	Canada - Over 50 cubic feet	CGA 415

PIN-INDEXED YOKE: Not Applicable.
ULTRA HIGH INTEGRITY: Not Applicable.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Purge Acetylene-handling equipment with inert gas (i.e. nitrogen) before attempting repairs. Always use product in areas where adequate ventilation is provided.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Provide natural or explosion-proof ventilation adequate to ensure Acetylene does not reach its lower flammability limit of 2.5%. Local exhaust ventilation is preferred, because it prevents gas dispersion into the work place by eliminating it at its source. If appropriate, install automatic monitoring equipment to detect the level of Acetylene and the presence of potentially explosive air-gas mixtures.

RESPIRATORY PROTECTION: Maintain oxygen levels above 19.5% in the workplace. Use supplied air respiratory protection if oxygen levels are below 19.5% (air-purifying respirators will not function) or during emergency response to a release of this product. During an emergency situation, before entering the area, check for flammable gas level as well as oxygen-deficient atmospheres. If respiratory protection is required, follow the requirements of the Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), or equivalent State standards.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Wear leather gloves when handling cylinders of this product. Otherwise, wear glove protection appropriate to the specific operation for which this product is used. Wear Solvex or neoprene gloves if operations could lead to a potential exposure to the solvent.

BODY PROTECTION: Use body protection appropriate for task. Cotton clothing is recommended for use to prevent static electric build-up. Safety shoes are recommended when handling cylinders.

9. PHYSICAL and CHEMICAL PROPERTIES

GAS DENSITY @ 0°C (32°F), 1 atm: 0.07314 lb/ft^3 (1.1716 kg/m^3)

BOILING POINT @ 10 psig: -75°C (-103°F)

FREEZING/MELTING POINT (@ 10 psig: -82.2°C (-116.°F)

SPECIFIC GRAVITY OF LIQUID @ -80°C (-112°F): 0.613

pH: Not applicable.

SPECIFIC GRAVITY OF GAS @ 0°C (32°F) (air = 1): 0.906

MOLECULAR WEIGHT: 26.04

SOLUBILITY IN WATER, vol/vol @ 0°C (32°F and 1 atm: 1.7

EXPANSION RATIO: Not applicable.

EVAPORATION RATE (nBuAc = 1): Not applicable.

ODOR THRESHOLD: 226 ppm (detection)

SPECIFIC VOLUME OF GAS @ 21.1°C (70°F) 1 atm: 14.7 ft^3/lb (0.918 m^3/kg)

VAPOR PRESSURE @ 21.1°C (70°F): 635 psig (4378 kPa)

COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

APPEARANCE AND COLOR: Colorless gas. Acetylene of 100% purity is odorless, but commercial purity has a garlic-like odor.

HOW TO DETECT THIS SUBSTANCE (warning properties): Commercial purity Acetylene has a garlic-like odor that may be a warning property. In terms of leak detection, fittings and joints can be painted with a soap solution to detect leaks, which will be indicated by a bubble formation.

10. STABILITY and REACTIVITY

STABILITY: Acetylene is stable at standard temperatures and pressures. Gaseous acetylene may decompose violently at elevated temperatures and pressures. Acetylene must not be used above pressure greater than 15 psig. The higher the pressure, the more likely it is for a reaction to occur.

DECOMPOSITION PRODUCTS: Carbon and hydrogen. When ignited in the presence of oxygen, carbon monoxide and carbon dioxide will be generated.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Acetylene is not compatible with the following materials: Strong oxidizers (i.e. chlorine, bromine pentafluoride, oxygen, oxygen difluoride, and nitrogen trifluoride); calcium hypochlorite; various heavy metals (copper, silver, mercury, brass with a copper content exceeding 65%) and the salts of these metals; halogens (bromine, chlorine, iodine, fluorine); hydrides (i.e. sodium hydride, cesium hydride); ozone; perchloric acid; potassium.

HAZARDOUS POLYMERIZATION: Can occur when heated or under pressure.

CONDITIONS TO AVOID: Contact with incompatible materials and exposure to heat, sparks and other sources of ignition. Cylinders exposed to high temperatures or direct flame can rupture or burst.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following information is for Acetylene.

TCLo (inhalation, human) = 20 pph; central nervous system, respiratory system effects.
LCLo (inhalation, human) = 500,000 ppm/5 minutes

Other data pertaining to the effects of Acetylene inhalation on humans are as follows:

Concentration	Symptom
100,000 ppm	Intoxication (drowsiness, dizziness, giddiness).
200,000 ppm	Severe intoxication.
300,000 ppm	Loss of coordination.
350,000 ppm	Unconsciousness after 5 minutes of exposure.

Effects on Short-Term Inhalation: Animals have shown tolerance to 10% Acetylene. In studies with dogs, cats, and rabbits, Acetylene acts as an anesthetic at 20% exposure. Recovery occurs if the oxygen level is maintained. In an oxygen-deficient environment, death may occur after 5-10 minutes. Rodents exposed to 25, 50, and 80 percent Acetylene in oxygen for 1-2 hours daily (93 hours total exposure), evidenced no weight change or cellular damage. Mixtures of 80% Acetylene/20% oxygen caused a rise in blood pressure in an exposed cat.

SUSPECTED CANCER AGENT: Acetylene is not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, CAL/OSHA, and therefore is not considered to be, nor suspected to be a cancer-causing agent by these agencies.

IRRITANCY OF PRODUCT: This product is not irritating; however, contact with the solvent can be slightly irritating to contaminated skin or eyes.

SENSITIZATION TO THE PRODUCT: Acetylene is not known to cause sensitization in humans.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of Acetylene on the human reproductive system.

Mutagenicity: No mutagenicity effects have been described for Acetylene.
Embryotoxcity: No embryotoxic effects have been described for Acetylene.
Teratogenicity: No teratogenicity effects have been described for Acetylene.
Reproductive Toxicity: No reproductive toxicity effects have been described for Acetylene.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generation lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions may be aggravated by over-exposure to Acetylene.

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, Biological Exposure Indices (BEIs) are not applicable for Acetylene.

RECOMMENDATIONS TO PHYSICIANS: Administer oxygen, if necessary; treat symptoms; reduce or eliminate exposure.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: Acetylene will be dissipated rapidly in well-ventilated areas. The following environmental data are available for acetylene.

ACETYLENE: Water Solubility = 100 vol./100 vol. at 18 EC. Acetylene is not expected to be harmful to aquatic life. Only moderately toxic to fish. Volatility and low solubility suggest it would be rare for water to become critically polluted from accidental releases. Acetylene is biodegraded through various plant and bacterial systems by inactivating atmospheric acetylene through their nitrogen- fixing mechanisms.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: Any adverse effect on animals would be related to oxygen deficient environments and the anesthetic properties of Acetylene at high concentrations of exposure. No adverse effect is anticipated to occur to plant-life.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on Acetylene's effects on aquatic life.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. Return cylinders with any residual product to Air Liquide. Do not dispose of locally.

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME:	Acetylene, dissolved
HAZARD CLASS NUMBER and DESCRIPTION:	2.1 (Flammable Gas)
UN IDENTIFICATION NUMBER:	UN 1001
PACKING GROUP:	Not applicable.
DOT LABEL(S) REQUIRED:	Flammable Gas

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): 116

MARINE POLLUTANT: Acetylene is not classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B).

NOTE: Shipment of compressed gas cylinders which have not been filled with the owners consent is a violation of Federal law (49 CFR, Part 173.301 (b)).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS. Use the above information for the preparation of Canadian Shipments.

15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: Acetylene is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act. This product is subject to the reporting requirements of Sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act (40 CFR 370.21).

SARA THRESHOLD PLANNING QUANTITY: Not applicable.

TSCA INVENTORY STATUS: Acetylene is listed on the TSCA Inventory.

CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

OTHER U.S. FEDERAL REGULATIONS:

- Acetylene is subject to the reporting requirements of Section 112(r) of the Clean Air Act. The Threshold Quantity for this gas is 10,000 pounds.
- Depending on specific operations involving the use of this product, the regulations of the Process Safety Management of Highly Hazardous Chemicals may be applicable (29 CFR 1910.119). Under this regulation Acetylene is not listed in Appendix A, however, any process that involves a flammable gas on-site, in one location, in quantities of 10,000 lbs (4,553 kg) or greater is covered under this regulation unless it is used as a fuel.
- Acetylene does not contain any Class I or Class II ozone depleting chemicals (40 CFR part 82).
- Acetylene is listed in Table 3 as a Regulated Substance in quantities of 10,000 lbs (4,553 kg) or greater, per 40 CFR, Part 68, of the Risk Management for Chemical Accidental Release Prevention.

OTHER CANADIAN REGULATIONS: Acetylene is categorized as a Controlled Product, Hazard Classes A, B1, F as per the Controlled Product Regulations.

15. REGULATORY INFORMATION (Continued)

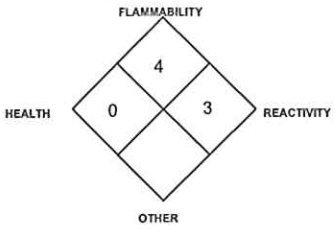
STATE REGULATORY INFORMATION: Acetylene is covered under specific State regulations, as denoted below:

Alaska - Designated Toxic and Hazardous Substances: Acetylene.
California - Permissible Exposure Limits for Chemical Contaminants: Acetylene.
Florida - Substance List: Acetylene.
Illinois - Toxic Substance List: Acetylene.
Kansas - Section 302/313 List: No.
Massachusetts - Substance List: Acetylene.
Minnesota - List of Hazardous Substances: Acetylene.
Missouri - Employer Information/Toxic Substance List: Acetylene.
New Jersey - Right to Know Hazardous Substance List: Acetylene.
North Dakota - List of Hazardous Chemicals, Reportable Quantities: No.
Pennsylvania - Hazardous Substance List: Acetylene.
Rhode Island - Hazardous Substance List: Acetylene.
Texas - Hazardous Substance List: No.
West Virginia - Hazardous Substance List: No.
Wisconsin - Toxic and Hazardous Substances: No.

CALIFORNIA PROPOSITION 65: Acetylene is not on the California Proposition 65 lists.

16. OTHER INFORMATION

NFPA RATING



HAZARDOUS MATERIAL INFORMATION SYSTEM

HEALTH	(BLUE)	0
FLAMMABILITY	(RED)	4
REACTIVITY	(YELLOW)	3
PROTECTIVE EQUIPMENT		B

EYES RESPIRATORY HANDS BODY

See Section 8

For routine industrial applications

MIXTURES: When two or more gases or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

Further information about acetylene can be found in the following pamphlets and videos published by: Compressed Gas Association Inc. (CGA), 4221 Walney Road 5th floor, Chantilly, VA 20151-2923: (703) 788-2700.

G-1	*"Acetylene"*
G-1.1	*"Commodity Specification for Acetylene"*
P-1	*"Safe Handling of Compressed Gases in Containers"*
SB-4	*"Handling Acetylene Cylinders in Fire Situations"*
SB-8	*"Use of Oxy-fuel Gas Welding and Cutting Apparatus"*
AV-9	*"Handling Acetylene Cylinders in Fire Situations"*
	"Handbook of Compressed Gases"

16. OTHER INFORMATION (Continued)

PREPARED BY:

CHEMICAL SAFETY ASSOCIATES, Inc.
9163 Chesapeake Drive, San Diego, CA 92123-1002
619/565-0302

MATERIAL SAFETY DATA SHEET

Product name:	Hilti Lithium-Ion batteries (Except B36/3.3 Li-Ion Battery)
Description:	Rechargeable Lithium-Ion batteries for power tools
Supplier:	Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 703 527 3887 (Other countries)

INGREDIENTS AND EXPOSURE LIMITS

This product is regarded as an "Article" by definition under OSHA Regulation, 29CFR 1910.1200(c). This product contains a positive electrode (lithium cobalt oxide), a negative electrode (graphite) and electrolyte (ethylene carbonate, diethyl carbonate and lithium hexafluorophosphate). The physical form of the product, however, precludes exposure to workers under normal conditions of use.

PHYSICAL DATA

Appearance:	Red/Black plastic case.	**Odor:**	Not applicable.
Vapor Density: (air = 1)	Not applicable.	**Vapor Pressure:**	Not applicable.
Boiling Point:	Not applicable.	**VOC Content:**	Not applicable.
Evaporation Rate:	Not applicable.	**Solubility in Water:**	Not applicable.
Specific Gravity:	Not determined.	**pH:**	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable.	**Flammable Limits:**	Not applicable.
Extinguishing Media:	Carbon Dioxide, Dry Chemical, Foam, Water.		
Special Fire Fighting Procedures:	None known. Always use a self-contained breathing apparatus when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None expected.		

REACTIVITY DATA

Hazardous Polymerization:	Will not occur.	**Stability:**	Stable.
Incompatibility:	Strong oxidizers/strong acids.		
Decomposition Products:	Thermal decomposition can yield toxic and acrid gases.		
Conditions to Avoid:	See "Handling and Storing Precautions" below.		

HEALTH HAZARD DATA

Known Hazards:	None known.
Signs and Symptoms of Exposure:	None anticipated.
Routes of Exposure:	None anticipated from proper use of this product.
Carcinogenicity:	Not applicable. See spill procedures.
Medical Conditions Aggravated by Exposure:	None expected.

EMERGENCY AND FIRST AID PROCEDURES

Under normal conditions of use, no exposure(s) should occur. The Emergency and First Aid Procedures are only applicable where there has been an exposure to electrolyte which has leaked from a damaged battery

Eyes:	Flush with plenty of water. Contact a physician if symptoms occur.
Skin:	Wash with soap and water. Contact a physician if symptoms occur.
Inhalation:	Move victim to fresh air. Contact a physician if symptoms persist.
Ingestion:	Contact a physician immediately.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Not required for handling the battery pack; however, safety glasses with side shields recommended while using most powered hand tools.
Skin Protection:	Not required
Respiratory Protection:	Not normally required. However, in some instances, dusts generated while drilling/sawing may necessitate the use of respiratory protection.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool dry place less than 95° F. Exposure to excessive heat and humidity and storage above 100° F will shorten the shelf life of this product. Keep out of reach of children. For industrial use only.
Spill Procedures:	If the battery integrity is destroyed by accident, (for example crushing) and the contents are released, do not touch spilled material. Take up with sand or other absorbent and place in container for disposal. Contact with battery contents may cause skin irritation and/or corrosive eye damage. If skin contact occurs, wash affected areas thoroughly with soap and water. Get medical attention if irritation develops. If eye contact occurs, flush thoroughly with running water for at least 15 minutes, while holding eyelids open. Get prompt medical attention.

REGULATORY INFORMATION

Hazard Communication:	This product is regarded as an "Article" by OSHA definition.
HMIS Codes:	Health 0, Flammability 0, Reactivity 0, PPE A
DOT Shipping Name:	Not regulated.
IATA Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product is considered to be an "Article", therefore, it is not subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	N/A
Waste Disposal Methods:	Batteries may be returned to Hilti by contacting the local salesperson, returning it to the local Hilti Center, or calling the toll free number (1-800-879-8000) where a Customer Service Representative will provide return instructions. DO NOT DISPOSE IN THE TRASH. Place tape over any exposed terminals to prevent inadvertent short-circuit during transportation.

CONTACTS

Customer Service:	1 800 879 8000	**Technical Service:**	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x3704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.

MATERIAL SAFETY DATA SHEET

Product name:	Hilti Lithium-Ion batteries (B36/3.3 Li-Ion Battery only)
Description:	Rechargeable Lithium-Ion batteries for power tools
Supplier:	Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 703 527 3887 (Other countries)

INGREDIENTS AND EXPOSURE LIMITS

This product is regarded as an "Article" by definition under OSHA Regulation, 29CFR 1910.1200(c). This product contains a positive electrode (lithium cobalt oxide), a negative electrode (graphite) and electrolyte (ethylene carbonate, diethyl carbonate and lithium hexafluorophosphate). The physical form of the product, however, precludes exposure to workers under normal conditions of use.

PHYSICAL DATA

Appearance:	Red/Black plastic case.	**Odor:**	Not applicable.
Vapor Density: (air = 1)	Not applicable.	**Vapor Pressure:**	Not applicable.
Boiling Point:	Not applicable.	**VOC Content:**	Not applicable.
Evaporation Rate:	Not applicable.	**Solubility in Water:**	Not applicable.
Specific Gravity:	Not determined.	**pH:**	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable.	**Flammable Limits:**	Not applicable.
Extinguishing Media:	Carbon Dioxide, Dry Chemical, Foam, Water.		
Special Fire Fighting Procedures:	None known. Always use a self-contained breathing apparatus when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None expected.		

REACTIVITY DATA

Hazardous Polymerization:	Will not occur.	**Stability:**	Stable.
Incompatibility:	Strong oxidizers/strong acids.		
Decomposition Products:	Thermal decomposition can yield toxic and acrid gases.		
Conditions to Avoid:	See "Handling and Storing Precautions" below.		

HEALTH HAZARD DATA

Known Hazards:	None known.
Signs and Symptoms of Exposure:	None anticipated.
Routes of Exposure:	None anticipated from proper use of this product.
Carcinogenicity:	Not applicable. See spill procedures.
Medical Conditions Aggravated by Exposure:	None expected.

EMERGENCY AND FIRST AID PROCEDURES

Under normal conditions of use, no exposure(s) should occur. The Emergency and First Aid Procedures are only applicable where there has been an exposure to electrolyte which has leaked from a damaged battery

Eyes:	Flush with plenty of water. Contact a physician if symptoms occur.
Skin:	Wash with soap and water. Contact a physician if symptoms occur.
Inhalation:	Move victim to fresh air. Contact a physician if symptoms persist.
Ingestion:	Contact a physician immediately.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Not required for handling the battery pack; however, safety glasses with side shields recommended while using most powered hand tools.
Skin Protection:	Not required
Respiratory Protection:	Not normally required. However, in some instances, dusts generated while drilling/sawing may necessitate the use of respiratory protection.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool dry place less than 95° F. Exposure to excessive heat and humidity and storage above 100° F will shorten the shelf life of this product. Keep out of reach of children. For industrial use only.
Spill Procedures:	If the battery integrity is destroyed by accident, (for example crushing) and the contents are released, do not touch spilled material. Take up with sand or other absorbent and place in container for disposal. Contact with battery contents may cause skin irritation and/or corrosive eye damage. If skin contact occurs, wash affected areas thoroughly with soap and water. Get medical attention if irritation develops. If eye contact occurs, flush thoroughly with running water for at least 15 minutes, while holding eyelids open. Get prompt medical attention.

REGULATORY INFORMATION

Hazard Communication:	This product is regarded as an "Article" by OSHA definition.
HMIS Codes:	Health 0, Flammability 0, Reactivity 0, PPE A
DOT Shipping Name:	Not regulated, but require the following label for ground shipment, "Lithium Batteries Forbidden for Transport Aboard Aircraft & Vessels."
IATA Shipping Name:	US - Lithium Battery, 9, UN3090, PGII
	International – Lithium Battery, 9, UN3480, PGII
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product is considered to be an "Article", therefore, it is not subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	N/A
Waste Disposal Methods:	Batteries may be returned to Hilti by contacting the local salesperson, returning it to the local Hilti Center, or calling the toll free number (1-800-879-8000) where a Customer Service Representative will provide return instructions. DO NOT DISPOSE IN THE TRASH. Place tape over any exposed terminals to prevent inadvertent short-circuit during transportation.

CONTACTS

Customer Service:	1 800 879 8000	**Technical Service:**	1 800 879 8000
Health / Safety:	1 800 879 6000 Jerry Metcalf (x3704)		
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.

MATERIAL SAFETY DATA SHEET

Product name:	Lithium-iron disulfide batteries
Description:	1.5 V non-rechargeable batteries used in Hilti GX 100 fastening tools
Supplier:	Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121
Emergency # (Chem-Trec.):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 703 527 3887 (Other countries)

INGREDIENTS AND EXPOSURE LIMITS

This product is regarded as an "Article" by definition under OSHA Regulation, 29CFR 1910.1200(c). The physical form of the product, however, precludes exposure to workers under normal conditions of use.

PHYSICAL DATA

Appearance:	Small round cylinders.	**Odor:**	Not applicable.
Vapor Density: (air = 1)	Not applicable.	**Vapor Pressure:**	Not applicable.
Boiling Point:	Not applicable.	**VOC Content:**	Not applicable.
Evaporation Rate:	Not applicable.	**Solubility in Water:**	Not applicable.
Specific Gravity:	Not determined.	**pH:**	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable.	**Flammable Limits:**	Not applicable.
Extinguishing Media:	Carbon Dioxide, Dry Chemical, Foam, Water.		
Special Fire Fighting Procedures:	Not known. Always use a self-contained breathing apparatus when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	Burning lithium-iron disulfide batteries can produce small amounts of hydrogen sulfide, sulfur dioxide and lithium trioxide.		

REACTIVITY DATA

Hazardous Polymerization:	Will not occur.	**Stability:**	Stable.
Incompatibility:	None known.		
Decomposition Products:	Thermal decomposition can yield toxic and acrid gases.		
Conditions to Avoid:	See “Handling and Storing Precautions” below.		

HEALTH HAZARD DATA

Known Hazards:	None known.
Signs and Symptoms of Exposure:	Exposure is unlikely.
Routes of Exposure:	None anticipated from proper use of this product.
Carcinogenicity:	Not applicable. See spill procedures.
Medical Conditions Aggravated by Exposure:	None expected.

EMERGENCY AND FIRST AID PROCEDURES

Inhalation:	Not applicable.
Ingestion:	Not applicable.
Eyes:	Not applicable. Refer to spill procedures below.
Skin:	Not applicable. Refer to spill procedures below.
Other:	None known.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General
Eye Protection:	Not required for this product; however, safety glasses (side shields recommended) or safety goggles are recommended while using most direct fastening tools.
Skin Protection:	Not required
Respiratory Protection:	Not normally required.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store tool in a cool dry place less than 100° F. Exposure to excessive heat and humidity and storage above 100° F will shorten the shelf life of the batteries.
Spill Procedures:	If the battery integrity is destroyed by accident, (for example crushing) and the contents are released, do not touch spilled material. Take up with sand or other absorbent and place in container for disposal. Contact with battery contents may cause skin irritation and/or corrosive eye damage. If skin contact occurs, wash affected areas thoroughly with soap and water. Get medical attention if irritation develops. If eye contact occurs, flush thoroughly with running water for at least 15 minutes, while holding eyelids open. Get prompt medical attention.

REGULATORY INFORMATION

Hazard Communication:	This product is regarded as an "Article" by OSHA definition.
HMIS Codes:	Health 0, Flammability 0, Reactivity 0, PPE A
DOT Shipping Name:	Not regulated.
IATA Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product is considered to be an "Article", therefore, it is not subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	N/A
Waste Disposal Methods:	Dispose in accordance with all applicable federal, state and local regulations.

CONTACTS

Customer Service:	1 800 879 8000	**Technical Service:**	1 800 879 8000
Health / Safety:	1 800 879 6000 Jerry Metcalf (x6704)		
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.

MATERIAL SAFETY DATA SHEET

151-8323
15 00

DATE OF PREPARATION
Feb 15, 2011

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
151-8323
PRODUCT NAME
950A Siliconized Acrylic Latex Caulk, White
MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
**for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)*	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
1	64742-88-7	**Mineral Spirits**		
		ACGIH TLV	100 PPM	2 mm
		OSHA PEL	100 PPM	
58	471-34-1	**Calcium Carbonate**		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	15 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	
1	13463-67-7	**Titanium Dioxide**		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

HMIS Codes

Health	2*
Flammability	0
Reactivity	0

EFFECTS OF OVEREXPOSURE
EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

In a confined area vapors in high concentration may cause headache, nausea or dizziness.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:
- the liver
- the urinary system

SIGNS AND SYMPTOMS OF OVEREXPOSURE
Redness and itching or burning sensation may indicate eye or excessive skin exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.
CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	FLAMMABILITY CLASSIFICATION
Not Applicable	N.A.	N.A.	Not Applicable

EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Alcohol Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY
Not Applicable
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.
VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
PROTECTIVE GLOVES
Wear gloves which are recommended by glove supplier for protection against materials in Section 2.
EYE PROTECTION
Wear safety spectacles with unperforated sideshields.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	13.47 lb/gal	1614 g/l
SPECIFIC GRAVITY	1.62	
BOILING POINT	212 - 395 °F	100 - 201 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	26%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	8.0	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

0.35 lb/gal	42 g/l	Less Water and Federally Exempt Solvents
0.27 lb/gal	33 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

TOXICOLOGY DATA

CAS No.	Ingredient Name			
64742-88-7	Mineral Spirits			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
471-34-1	Calcium Carbonate			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
13463-67-7	Titanium Dioxide			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

Not Regulated for Transportation.

Canada (TDG)
Not Regulated for Transportation.
IMO
Not Regulated for Transportation.
IATA/ICAO
Not Regulated for Transportation.

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.
CALIFORNIA PROPOSITION 65
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
TSCA CERTIFICATION
All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

WL880100-01 00

DATE OF PREPARATION
May 3, 2011

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
WL880100-

PRODUCT NAME
WHITE LIGHTNING® FLAME BUSTER™ Intumescent Sealant, Red

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS CO.
Consumer Group - Industrial
Cleveland, OH 44115

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
**for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)*	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

No ingredients in this product are hazardous as defined by the Department of Labor.

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE
EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

HMIS Codes

Health	1
Flammability	0
Reactivity	0

SIGNS AND SYMPTOMS OF OVEREXPOSURE
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.

CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	FLAMMABILITY CLASSIFICATION
Not Applicable	N.A.	N.A.	Not Applicable

EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY

Not Applicable

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

Required for long or repeated contact.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	11.80 lb/gal	1413 g/l
SPECIFIC GRAVITY	1.42	
BOILING POINT	212 - 213 °F	100 - 100 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	29%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	7.9	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

0.07 lb/gal	8 g/l	Less Water and Federally Exempt Solvents
0.05 lb/gal	6 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide , Phosphoric Acid Fumes, Oxides of Phosphorus

HAZARDOUS POLYMERIZATION
Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
TOXICOLOGY DATA
No LC50 or LD50 data available.

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION
No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD
Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)
Not Regulated for Transportation.
Canada (TDG)
Not Regulated for Transportation.
IMO
Not Regulated for Transportation.
IATA/ICAO
Not Regulated for Transportation.

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.
CALIFORNIA PROPOSITION 65
WARNING: This product contains chemicals known to the State of California to cause cancer.
TSCA CERTIFICATION
All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

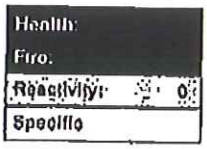
MSDS Document

Product Private Label Action Industries Storm Shield

1. Chemical Product and Company Identification

Trade Name of this Product Private Label Action Industries Storm Shield

Synonyms: 01915BR10, 01468BR72



2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Toluene	108-88-3	19 %	50 ppm skin	100 ppm skin	150 ppm skin
n-Hexane	110-54-3	14 %	50 ppm	50 ppm	1000 ppm
Petroleum Naptha	64742-89-8	2 %	300 ppm	300 ppm	400 ppm

3. Hazard Identification

Eye Contact
May cause eye irritation.

Skin contact
May cause mild irritation

Inhalation
May cause irritation to upper respiratory tract

Ingestion
Not a likely route of entry under proper handling conditions.

Symptoms of Overexposure
May cause mild skin irritation and irritation of the respiratory tract. No known chronic effects.

4. First Aid Information

Eye Contact
Immediately flush eyes with water for at least 15 minutes. Get medical attention if irritation develops.

Skin Contact
Remove contaminated clothing and wash skin with soap and water. Get medical attention if irritation persists. Launder clothing before reuse.

Inhalation
Remove patient to fresh air. Administer oxygen if breathing is difficult. Get medical attention if symptoms persist.

Ingestion
Not a likely route of entry under proper handling conditions. Seek medical attention if necessary.

5. Fire Fighting Measures

Flash Point	<0F
FP Method	PMCC
LEL	1
UEL	6

Extinguishing Media
Carbon Dioxide, Dry Chemical, Foam

Special Fire Fighting Procedures
Wear self-contained breathing apparatus. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

Unusual Fire and Explosion Hazards
This material is flammable and can be ignited by heat, sparks, flames or other sources of ignition. Vapors may travel considerable distances to a source of ignition where they can ignite, flashback or explode. If container is not properly cooled, it can explode in the heat of a fire. Vapors are heavier than air and can accumulate in low areas.

6. Accidental Release Measures

Steps to be taken in case of spill or release
Eliminate all sources of ignition and soak up material with absorbent material (sand, sawdust) and place into closed containers for disposal.

Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

7. Handling and Storage

Handling and Storage Requirements
Protect against physical damage. Store in a cool, dry place (50F-90F). Keep away from excessive heat. Protect from freezing.

8. Exposure Controls and Personal Protection

Skin Protection
Chemical resistant gloves. If clothing becomes contaminated, remove and clean before re-wearing.

Eye Protection
Chemical goggles with side shields or face shield recommended.

Ventilation
Use local exhaust. Do not use closed air circulating system. Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV. Explosion proof ventilation system is acceptable.

Respiratory Protection
Use product in a well ventilated area. If vapors or mists are generated, wear NIOSH/MSHA approved organic vapor/mist respirator or use a NIOSH approved air supplied respirator in the absence of proper environmental control.

9. Physical and Chemical Properties

Physical State	Paste
Specific Gravity	1.12
Color/Appearance	Brown/Tan
Odor	Characteristic solvent odor
Boiling/Cond. Point	200F
Solubility	Not applicable
VOC %	397 g/L (calculated)
Percent Volatile	35% by weight
Vapor Density	3.00 (Air=1)
Vapor Pressure	125 mm Hg @ 68F

Note
The above information is not intended for use in preparing product specifications.

10. Stability and Reactivity

Chemical Stability
Stable

Hazardous Polymerization
Will not occur

Conditions to be Avoided
Keep away from extreme heat, sparks, and open flames.

Materials to Avoid / Incompatibility
Oxidizing material can cause a reaction.

Hazardous Decomposition Products
Oxides of carbon, water and organic compounds of unknown structure

11. Toxicological Information

Carcinogenicity
This product is not known to be a carcinogen.

12. Ecological Information

Fate and Effects In Waste Water Treatment Plants
Complete information is not yet available.

Environmental Effects
Complete information is not yet available.

Environmental Fate and Distribution
Complete information is not yet available.

13. Disposal Considerations

Waste Disposal Method
We make no guarantee or warranty of any kind that the use or disposal of this product complies with all local, state, or federal laws. It is also the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable statutes.

This material if discarded may be hazardous under US EPA RCRA regulations. All disposal activities must comply with federal, state and local regulations. Contact your local or state environmental agency for specific rules. Do not dump into sewers, on the ground or into any body of water.

14. Transportation Information

Shipping Data
DOT Proper Shipping Name: Adhesives (containing flammable solvents)
DOT Hazardous Classification: Class-3 Packing Group-II
DOT Labels Required: Flammable

DOT Placards Required: Flammable
Poison Constituent: None
Bill of Lading Description: Adhesive, NOS (Toluene, Hexane), Flammable semi-liquid
UN/NA Code: 1133

15. Regulatory Information

The contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA (Toxic Substances Control Act) Status
The intentional ingredients of this product are listed.

SARA Title III Section 313 Toxic Chemicals
Hexane (110-54-3)
Toluene (108-88-3)

SARA Title III Section 304 CERCLA Hazardous Substances
Hexane (110-54-3)
Toluene (108-88-3)

California Proposition 65
This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm:
Toluene (108-88-3) Teratogen

16. Other Information

Disclaimer
The data contained herein is based upon information that is believed to be reliable. Users of this product have the responsibility to determine that suitability of use and to adopt all necessary precautions to ensure the safety and protection of property and persons involved in said use. All statements to suggestions are made without warranty, expressed or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

MATERIAL SAFETY DATA SHEET

STAMPEDE

2008a

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

STAMPEDE™-1 Polyurethane Sealant

Smooth White	WL0001400	WL0001414
Smooth Limestone	WL0001401	WL0001415
Smooth Aluminum Gray	WL0001402	
Smooth Stone	WL0001403	
Smooth Tan	WL0001404	WL0001445
Smooth Special Bronze	WL0001405	WL0001432
Smooth Black	WL0001406	WL0001456
Smooth Off-White	WL0001407	WL0001455
Smooth Medium Bronze	WL0001408	
Smooth Redwood Tan	WL0001409	
Colonial White	WL0001420	
Kentucky Mirror Bronze	WL0001462	
Textured White	WL0001410	
Textured Aluminum Gray	WL0001411	
Textured Tan	WL0001412	
Textured Limestone	WL0001413	
Stone	WL0001446	WL0001447

HMIS CODES

Health	2*
Flammability	2
Reactivity	0

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
8-DEC-08

INFORMATION TELEPHONE NO.
(216) 566-2902

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT			UNITS	VAPOR PRESSURE
0.1-1	100-41-4	Ethylbenzene				
			ACGIH TLV	100	ppm	7.1 mm
			ACGIH TLV	125	ppm STEL	
			OSHA PEL	100	ppm	
			OSHA PEL	125	ppm STEL	
1-5	1330-20-7	Xylene				
			ACGIH TLV	100	ppm	5.9 mm
			ACGIH TLV	150	ppm STEL	
			OSHA PEL	100	ppm	
			OSHA PEL	150	ppm STEL	
0.1-1	101-68-8	4, 4'-Diphenylmethane Diisocyanate				
			ACGIH TLV	0.005	ppm	
			OSHA PEL	0.02	ppm CEILING	
<20	471-34-1	Calcium Carbonate				
			ACGIH TLV	10	mg/m3 as Dust	
			OSHA PEL	15	mg/m3 Total Dust	
			OSHA PEL	5	mg/m3 Respirable Fraction	
<5	13463-67-7	Titanium Dioxide				
			ACGIH TLV	10	mg/m3 as Dust	
			OSHA PEL	10	mg/m3 Total Dust	
			OSHA PEL	5	mg/m3 Respirable Fraction	

Continued on page 2

<1	1333-86-4	Carbon Black		
		ACGIH TLV	3.5	mg/m3
		OSHA PEL	3.5	mg/m3

Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

May cause allergic respiratory and/or skin reaction in susceptible persons or sensitization. This effect may be delayed several hours after exposure.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

Section 4 -- FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

INHALATION: If any breathing problems occur during use, LEAVE THE AREA and get fresh air. If problems remain or occur later, IMMEDIATELY get medical attention.

INGESTION: Do not induce vomiting. Get medical attention immediately.

Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
166 °F TCC	1.0	7.0

FLAMMABILITY CLASSIFICATION

Combustible, Flash above 99 and below 200 °F

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Continued on page 3

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY

DOL Storage Class IIIA

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Contents are COMBUSTIBLE. Keep away from heat and open flame.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Keep container closed when not in use. Do not take internally. Keep out of the reach of children.

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

NO PERSON SHOULD USE THIS PRODUCT, OR BE IN THE AREA WHERE IT IS BEING USED, IF THEY HAVE CHRONIC (LONG-TERM) LUNG OR BREATHING PROBLEMS OR IF THEY EVER HAD A REACTION TO ISOCYANATES.

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

None normally required.

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried product, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

Continued on page 4

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	11.3 lb/gal	1350 g/l
SPECIFIC GRAVITY	1.36	
BOILING POINT	281 - 292 °F	138 - 144 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	5 %	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

0.4-0.5 lb/gal	50-60 g/l	Less Water and Federally Exempt Solvents
0.4-0.5 lb/gal	50-60 g/l	Emitted VOC

Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide, Oxides of Nitrogen

HAZARDOUS POLYMERIZATION

Will not occur

Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Persons sensitive to isocyanates will experience increased allergic reaction on repeated exposure.

Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is insufficient evidence in humans for its carcinogenicity.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary and reproductive systems.

Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Continued on page 5

TOXICOLOGY DATA

CAS No.	Ingredient Name				
100-41-4	Ethylbenzene				
		LC50	RAT	4HR	Not Available
		LD50	RAT	3500	mg/kg
1330-20-7	Xylene				
		LC50	RAT	4HR 5000	ppm
		LD50	RAT	4300	mg/kg
101-68-8	4, 4'-Diphenylmethane Diisocyanate				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
471-34-1	Calcium Carbonate				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
13463-67-7	Titanium Dioxide				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
1333-86-4	Carbon Black				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available

Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

Section 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from these products is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Section 14 -- TRANSPORT INFORMATION

US Ground (DOT)

Not Regulated for Transportation.

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities

Xylenes (isomers and mixture) 100 lb RQ

Bulk Containers may be Shipped as (check reportable quantities):

RQ, NA1993, COMBUSTIBLE LIQUID, N.O.S. (XYLENES), PG III, (XYLENES (ISOMERS AND MIXTURE)), (ERG#128)

Canada (TDG)

Not Regulated for Transportation.

IMO

Not Regulated for Transportation.

Continued on page 6

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT
100-41-4	Ethylbenzene	max 1
1330-20-7	Xylene	max 5
101-68-8	4, 4'-Diphenylmethane Diisocyanate	max 1

CALIFORNIA PROPOSITION 65

WARNING: These products contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in these products are listed, or are exempt from listing, on the TSCA Inventory.

Section 16 -- OTHER INFORMATION

These products have been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the products. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

**** MATERIAL SAFETY DATA SHEET ****

NB6101 - Engine Degreaser

**** SECTION 1 - CHEMICAL PRODUCT AND MANUFACTURER IDENTIFICATION ****

Product Name: NB6101 - Engine Degreaser

Part Number:

NB6101

Product CAS: (None)

Product Code: NB6101

Synonyms: NB6101 - Engine Degreaser

MANUFACTURER IDENTIFICATION

Name: Gold Eagle Company
Address: 4400 S. Kildare Blvd.
City: Chicago **State:** IL **Zip:** 60632-4372

For information call: 773-376-4400

Emergency Number: N/A

Emergency Agency: INFOTRAC

Agency Number: 1-800-535-5053

MSDS Effective Date: 4/2/2008

MSDS Supersedes Date:

Miscellaneous:
Product CAS: Mixture.

Brief Description: Motor flush designed to remove engine sludge & varnish.

Return to top

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
Additive Mixture	(none)	0	10
Petroleum Distillate	64742-47-8	90	100

Return to top

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW:

NFPA: Health: 1 **Fire:** 2 **Reactivity:** 0 **Specific Hazard:** None

HMIS: Health: 1 **Flammability:** 2 **Reactivity:** 0 **PPE:** B

Miscellaneous:
This product does not contain any components above de minimus concentrations that are considered carcinogenic by OSHA, IARC or NTP.

POTENTIAL HEALTH EFFECTS
Target Organs/Primary Route(s) of Entry:

Eye:
Mild irritant.

Skin:
Irritant.

Ingestion:
Toxicity is relatively low, there is a risk of aspiration of product into the lungs. On ingestion of large quantities, slight GI discomfort, diarrhea, and headache and nervous system depression may occur. Small doses may produce irritation and diarrhea.

Inhalation:
Low risk of inhalation. Mists above TLV may cause chemical pneumonitis.

Miscellaneous:

Return to top

**** SECTION 4 - FIRST AID MEASURES ****

Eye:
If the product contacts the eyes, immediately wash the eyes with large quantities of room temperature water for at least 15 minutes, occasionally lifting the lower and upper lids. Get medical attention immediately.

Skin:
If the product contacts the skin, promptly wash the contaminated skin with soap and water for at least 15 minutes. If this product penetrates the clothing, promptly remove the clothing and wash the skin with soap and water.

Ingestion:
Do not induce vomiting, product contains petroleum distillate. Get medical attention immediately.

Inhalation:
Move the exposed person to fresh air at once and call emergency medical care. If breathing has stopped, give artificial respiration. If breathing is difficult, give humidified oxygen.

Notes to Physician:
Potential aspiriation into lungs, treat accordingly.

Return to top

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Flash Point: 175.0 F

AutoIgnition Temperature: N/A

Flammable Limits
Lower Limit: Explosive Limit (LEL): 0.8

Upper Limit: Explosive Limit (UEL): 7.0

Extinguishing Media:
Use carbon dioxide, dry chemical, foam and/or water fog as extinguishing media.

Unusual Fire and Explosion Hazards:
Water may cause frothing.

Special Fire Fighting Procedures:
Wear NIOSH approved SCBA respirator in the positive pressure mode and chemical protective clothing.

General Information:
Flammable Limits: 0.8 to 7.0

Return to top

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Small Spill: Remove sources of heat or ignition, provide adequate ventilation, contain leak using absorbent, inert, non-combustible material.

Large Spill: Contain spill, transfer to secure containers. In the event of an uncontrolled material release, the user should determine if release is reportable under applicable laws and regulations.

Return to top

**** SECTION 7 - HANDLING AND STORAGE ****

Handling:
See other sections of MSDS.

Storage:
See other sections of MSDS.

Return to top

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

GENERAL HYGIENE CONSIDERATIONS:
Use normal hygiene practices.

OTHER PRECAUTIONS:
Product is combustible, handle accordingly.

ENGINEERING CONTROLS:

Local Exhaust: Provide local ventilation to maintain exposure levels below recommended exposure limits.

Mechanical (General): In confined spaces, mechanical ventilation may be required.

PERSONAL PROTECTIVE EQUIPMENT
Eyes/face:
Use splash proof chemical, safety goggles or appropriate full-face respirator.

Skin:
Use oil impervious gloves as required.

Respirators:
Normally none is required. If high vapor or mist concentrations are expected, use appropriate NIOSH approved respirator for organic vapors and mists. Respirators must be selected based on the airborne levels found in the workplace and must not exceed the working limits of the respirator.

Other Protective Clothing/Equipment:
If there is a possibility of exposure of an individual's body to the product, wear body-covering work clothes to avoid prolonged or repeated exposure.

Return to top

****** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ******

Appearance/Odor:
Amber liquid, solvent odor

pH: N/A

Vapor Pressure: (MM HG): LT 3.0

Vapor Density(Air=1): 4.8

Evaporation Rate: N/A

Viscosity: N/A

Boiling Point: 180 F.

Freezing/Melting Point: N/A

Decomposition Temperature: N/A

Solubility in Water: Negligible

Specific Gravity: 0.865

Molecular Formula: N/A

Molecular Weight: N/A

VOC Coating (minus water): 0 Lbs/Gallon

Coating Density : 0 Lbs/Gallon

Solvent Density : 0 Lbs/Gallon

Percent Solvent (volume): 100

Percent Solids (volume): 0

Percent Water (volume): 0

Percent Volatile by Weight: 0

Miscellaneous:
% Volatile/Volume: 100.0

Percent Solvent (Volume): N/A

Percent Solids (Volume): N/A

Percent Water (Volume): N/A

Product is combustible, keep away from sources of ignition, oxidizing materials and acid. Store in an area equipped with automatic sprinklers or fire extinguishing system. Empty containers contain product residues, assume emptied containers to have same hazards as full containers. Bond and ground all equipment when transferring from one vessel to another vessel.

Return to top

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable: Yes

Conditions to Avoid:
Store below 150 F. Do not apply high heat or flame to container. Keep separate from strong oxidizing agents.

Product is combustible.

Incompatibilities with Other Materials:
Strong oxidants.

Hazardous Decomposition Products:
Excessive heating and/or incomplete combustion will produce carbon monoxide.

Hazardous Polymerization:
Hazardous polymerization may occur: No

Return to top

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

No data available.

Return to top

**** SECTION 12 - ECOLOGICAL INFORMATION ****

No data available.

Return to top

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of product in accordance with local, state, and federal regulations. Before attempting clean up, refer to other sections of MSDS for hazard warning information.

Return to top

****** SECTION 14 - TRANSPORT INFORMATION ******

Transportation Information:
Shipping Information (CFR 49 and IMDG):

Proper Shipping Name: Cleaning Compound, N.O.I.
DOT Hazard Class: Not required
DOT UN Number: None required.
IMDG Shipping Name: Petroleum Distillate, Non-Hazardous Flashpoint > 140 F.

Label Information:
Schedule B Number: 2710.00.1020

Return to top

****** SECTION 15 - REGULATORY INFORMATION ******

SARA Title III:

Section 302: None
Section 304: None
Section 311: None
Section 313: None

CERCLA:

Section 311(b)(4): Requires discharges of crude oil and petroleum products in any kind or form to waters must immediately be reported to the National Response Center at (800) 424-8802.

Return to top

****** SECTION 16 - ADDITIONAL INFORMATION ******

Disclaimer: Information presented herein is believed to be factual, as it has been derived from the works and opinions of persons believed to be qualified experts. However, nothing contained in this information is to be taken as warranty or representation for which the Gold Eagle Co. bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Prepared by: Mike Profetto

Return to top

MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet (MSDS) complies with the requirements of OSHA's Hazard Communication Standard.

7018 – AC – WELDING ELECTRODE

RADNOR WELDING PRODUCTS

Emergency Phone Number: 800-424-9300

Date: March 23, 2000

Product Information Number: 888-838-0615

SECTION 1 – PRODUCT IDENTIFICATION

Product Name/Class	AWS E7018-AC Welding Electrode
Product Number	004012
Manufacturer	Radnor Welding Products 259 N. Radnor-Chester Road Suite 100 Radnor, PA 19087-5283

SECTION 2 – HAZARDOUS INGREDIENTS

IMPORTANT! This section covers the materials from which this product is manufactured. The fumes and gases produced during welding with the normal use of this product are covered by Sections 5 through 8. See these sections for industrial hygiene information.

CAS Number shown is representative for the ingredients listed. All ingredients listed may not be present in all sizes.

The term "hazardous" in "Hazardous Materials" should be interpreted as a term required and defined in the Hazards Communication Standard and does not necessarily imply the existence of any hazard.

Ingredients:	CAS No.	Weight %	TLV mg/m^3	PEL mg/m^3	Supplemental Information:
Iron	7439-89-6	15	10*	10*	
Titanium dioxides (as Ti)***	13463-67-7	10	10	10	
Limestone and/or calcium carbonate	1317-65-3	5	10	15	
Silicates and other binders	1344-09-8	<5	10*	10*	
Manganese and/or manganese alloys and compounds (as Mn)***	7439-96-5	<5	1.0(c)	1.0(c)	
Mineral silicates	1332-58-7	<5	5**	5**	
Aluminum oxide and/or Bauxite***	1344-28-1	<5	10	10	
Fluorides (as F)	7789-75-5	1	2.5	2.5	
Silicon and/or silicon alloys and compounds (as Si)	7440-21-3	1	10*	10*	
Titanium and/or titanium alloys (as Ti)	12719-90-3	0.5	10*	10*	
Aluminum and/or aluminum alloys (as Al)***	7429-90-5	<0.5	10	15	
Lithium compounds (as Li)	554-13-2	<0.5	10*	10*	
Carbon steel core wire	7439-89-6	55	10*	10*	

* Not listed. Nuisance value maximum is 10 mg/m^3. PEL value for iron oxide is 10 mg/m^3. TLV value for iron oxide is 5 mg/m^3.

** As respirable dust.

*** Subject to the reporting requirements of Sections 311, 312, and 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 370 and 372.

(c) Values are for manganese fume. STEL (Short Term Exposure Limit) is 3.0 milligrams per cubic meter.

SECTION 3 – PHYSICAL CHARACTERISTICS

Boiling Point: N/A	Specific Gravity (H_2O = 1): N/A	Solubility in Water : N/A
Vapor Pressure (mm Hg.): N/A	Melting Point: N/A	%Volatile: N/A
Vapor Density (Air = 1): N/A	Evaporation Rate (Butyl Acetate =1): N/A	Appearance and Odor: N/A

SECTION 4 – FIRE and EXPLOSION HAZARD DATA

Non Flammable. Welding arc and sparks can ignite combustibles and flammables. Refer to American National Standard Z49.1 for fire prevention during the use of welding and allied procedures.

SECTION 5 – REACTIVITY DATA

Hazardous Decomposition Products: Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and electrodes used.

Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the worker area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities).

When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 2. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section 2, plus those from the base and coating, etc. as noted above.

Reasonably expected fume constituents of the product would include: Primarily iron; secondarily complex oxides of manganese, potassium, silicon, sodium, and titanium.

Maximum fume exposure guideline and PEL for this product is 5.0 milligrams per cubic meter.

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc.

SECTION 5 – REACTIVITY DATA (continued)

Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. See ANSI/AWS F1.1, F1.2, F1.4, and F1.5, available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

SECTION 6 – HEALTH HAZARD DATA

Carcinogenicity: The composition of welding or brazing fumes may contain carcinogens, depending on several factors that are unknown and unknowable to the product manufacturer (see Section 5). Always assume that welding or brazing fumes may contain toxic and/or carcinogenic materials, and follow sound Work/Hygiene practices as recommended by ANSI Z49.1.

Threshold Limit Value: The ACGIH recommended general limit for Welding Fume NOC – (Not otherwise Classified) is 5 mg/m^3. ACGIH-1987-88 preface states that the TLV-TWA should be used as guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations. See Section 5 for specific fume constituents which may modify this TLV. Threshold Limit Values are figures published by the American Conference of Government Industrial Hygienists. Units are milligrams per cubic meter of air. Effects of Overexposure: Electric arc welding may create one or more of the following health hazards: Fumes and Gases can be dangerous to your health. Common entry is by inhalation. Other possible routes are skin contact and ingestion. Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema). Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung) and may affect pulmonary function. Manganese overexposure can affect the central nervous system, resulting in impaired speech and movement. Bronchitis and some lung fibrosis have been reported. Arc Rays can injure eyes and burn skin. *Skin cancer has been reported.* Electric Shock can kill. If welding must be performed in damp locations or with wet clothing, on metal structures or when in cramped positions such as sitting, kneeling or lying, if there is a high risk of unavoidable or accidental contact with workpiece, use the following equipment: Semiautomatic DC Welder, DC Manual (Stick) Welder, or AC Welder with Reduced Voltage Control. Emergency and First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by the American Red Cross. IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (Cardiopulmonary Resuscitation) techniques. IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. In all cases, call a physician.

HMIS Rating	HMIS Scale	NFPA Rating	NFPA Scale
Health = 2	4 = Severe Hazard	Health = 1	4 = Severe Hazard
Flammability = 0	3 = Serious Hazard	Flammability = 0	3 = Serious Hazard
Reactivity = 0	2 = Moderate Hazard	Reactivity = 0	2 = Moderate Hazard
	1 = Slight Hazard	Other = N/A	1 = Slight Hazard
	0 = Minimal Hazard		0 = Minimal Hazard

SECTION 7 – PRECAUTIONS for SAFE HANDLING and USE

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, "Safety in Welding and Cutting", published by the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126 and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Washington, D.C. 20402 for more details on many of the following:

Disposal Information: Discard any product, residue, disposable container, or liner as ordinary waste in an environmentally acceptable manner according to Federal, State and Local Regulations unless otherwise noted.

SECTION 8 – CONTROL MEASURES

Respiratory Protection *(Specify Type)* Use respirable fume respirator or air supplied respirator when welding in confined space or general work area when local exhaust or ventilation does not keep exposure below TLV.

Ventilation: Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes. *Keep exposure as low as possible.*

Eye Protection: Wear helmet or use face shield with filter lens shade number 12 or darker. Shield others by providing screens and flash goggles.

Other Protective Clothing or Equipment: Wear hand, head, and body protection which help to prevent injury from radiation, sparks and electrical shock. See Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to permit electrically live parts or electrodes to contact skin or clothing or gloves if they are wet. Insulate from work and ground.

OTHER INFORMATION REQUIRED BY STATE OR FEDERAL LAW

California Proposition 65 Information: Warning: This product contains a chemical known to the State of California to cause cancer.

New Jersey Right-To-Know Information: 5 most predominant ingredients/hazardous and non-hazardous)
1. Carbon steel; 2. Iron; 3. Titanium dioxides (as Ti); 4. Limestone and/or calcium carbonate; 5. Flourides (as F).

SARA Title III Notification Information: All chemical compounds marked with an asterisk (*) are toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Super Fund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Disclaimer of Expressed and Implied Warranties: The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use.

CRC MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: **NAPA/CRC® Lectra-Motive® Electric Parts Cleaner** (aerosol)

Product Number (s): **091313**

Product Use: Energized Electrical Cleaner

Manufacturer / Supplier Contact Information:

In United States:
CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com
1-215-674-4300(General)
(800) 521-3168 (Technical)
(800) 272-4620 (Customer Service)

In Canada:
CRC Canada Co.
2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
www.crc-canada.ca
1-905-670-2291

In Mexico:
CRC Industries Mexico
Av. Benito Juárez 4055 G
Colonia Orquídea
San Luís Potosí, SLP CP 78394
www.crc-mexico.com
52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Vapor Harmful. Contents Under Pressure.
As defined by OSHA's Hazard Communication Standard, this product is hazardous.
Appearance & Odor: Colorless liquid, irritating odor at high concentrations

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause slight temporary eye irritation. Vapors may irritate the eyes at concentrations of 100 ppm.

SKIN: Short single exposures may cause skin irritation. Prolonged exposure may cause severe skin irritation, even a burn. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INHALATION: Dizziness may occur at concentrations of 200 ppm. Progressively higher levels may also cause nasal irritation, nausea, incoordination, and drunkenness. Very high levels or prolonged exposure could lead to unconsciousness and death.

INGESTION: Single dose oral toxicity is considered to be extremely low. Swallowing large amounts may cause injury if aspirated into the lungs. This may be rapidly absorbed through the lungs and result in injury to other body systems.

CHRONIC EFFECTS: Repeated contact with skin may cause drying or flaking of skin. Excessive or long term exposure to vapors may increase sensitivity to epinephrine and increase myocardial irritability.

TARGET ORGANS: Central nervous system. Possibly liver and kidney.

Medical Conditions Aggravated by Exposure: None known.

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Tetrachloroethylene (PERC)	127-18-4	> 95
Carbon Dioxide	124-38-9	< 5

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Do NOT induce vomiting. Call a physician immediately.

Note to Physicians: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. If burn is present, treat as any thermal burn, after decontamination. Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary. No specific antidote.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is nonflammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6))

Flash Point: None (TCC) Upper Explosive Limit: None
Autoignition Temperature: None Lower Explosive Limit: None

Fire and Explosion Data:

Suitable Extinguishing Media: This material does not burn. Use extinguishing agent suitable for surrounding fire.

Products of Combustion: Hydrogen chloride, trace amounts of phosgene and chlorine

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8. Do not breathe vapors.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Methods for Containment & Clean-up: Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate

respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Vapors of this product are heavier than air and will collect in low areas. Make sure ventilation removes vapors from low areas. Do not eat, drink or smoke while using this product. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120 F to prevent cans from rupturing.

Aerosol Storage Level: I

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

	OSHA		ACGIH		OTHER		
COMPONENT	TWA	STEL	TWA	STEL	TWA	SOURCE	UNIT
Tetrachloroethylene	100	N.E.	25	100	N.E.		ppm
Carbon dioxide	5000	30000 v	5000	30,000	N.E.		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as PVA, Teflon, or Viton. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: colorless
Odor: irritating odor
Odor Threshold: 50 ppm
Specific Gravity: 1.619

Initial Boiling Point: 250 F
Freezing Point: ND
Vapor Pressure: 13 mmHg @ 68 F
Vapor Density: 5.76 (air = 1)
Evaporation Rate: very fast
Solubility: 0.015 g/ 100 g @ 77 F in water
Coefficient of water/oil distribution (log P_{ow}): 2.88
pH: NA
Volatile Organic Compounds: wt %: 0 g/L: 0 lbs./gal: 0

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Avoid direct sunlight or ultraviolet sources. Avoid open flames, welding arcs, and other high temperature sources which induce thermal decomposition.

Incompatible Materials: Avoid contact with metals such as: aluminum powders, magnesium powders, potassium, sodium, and zinc powder. Avoid unintended contact with amines. Avoid contact with strong bases and strong oxidizers.

Hazardous Decomposition Products: Hydrogen chloride, trace amounts of chlorine and phosgene

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Tetrachloroethylene	2629 mg/kg	> 10 g/kg	5200 mg/kg/4H
Carbon dioxide	No data	No data	470,000 ppm/30M

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Tetrachloroethylene	No	Group 2A	Reasonably Anticipated to be a Carcinogen	E (mild) / S (severe)	No
Carbon dioxide	No	No	No	None	No

E – Eye S – Skin R - Respiratory

Reproductive Toxicity: No information available
Teratogenicity: No information available
Mutagenicity: Tetrachloroethylene: in vitro studies were negative
animal studies were negative
Synergistic Effects: No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity:	Tetrachloroethylene -- 96 Hr LC50 Rainbow Trout: 5.28 mg/L (static) 96 Hr LC50 Fathead minnow: 13.4 mg/L (flow-through)
Persistence / Degradability:	Biodegradation under aerobic conditions is below detectable limits. Biodegradation may occur under anaerobic conditions. Biodegradation rate may increase in soil and/or water with acclimation.
Bioaccumulation / Accumulation:	Bioconcentration potential is low (BCF less than 100).
Mobility in Environment:	Potential for mobility in soil is medium.

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is a RCRA hazardous waste for toxicity with the following potential waste codes: U210, F001, F002, D039. Pressurized containers are a D003 reactive waste. (See 40 CFR Part 261.20 – 261.33)
Empty aerosol containers may be recycled. Any liquid product should be managed as a hazardous waste.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground):	Consumer Commodity, ORM-D
ICAO/IATA (air):	Aerosols, non-flammable, containing substances in Division 6.1, Packing Group III, UN1950, 2.2 (6.1), PGIII
IMO/IMDG (water):	Aerosols, UN1950, 2.2, Limited Quantity
Special Provisions:	None

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):
All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):
Reportable Quantities (RQ's) exist for the following ingredients: Tetrachloroethylene (100 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:
Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:

Fire Hazard	No
Reactive Hazard	No
Release of Pressure	Yes
Acute Health Hazard	Yes
Chronic Health Hazard	Yes

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of

1986 and 40 CFR Part 372:
Tetrachloroethylene (97.7%)

Clean Air Act:
Section 112 Hazardous Air Pollutants (HAPs): Tetrachloroethylene

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):
This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm:
Tetrachloroethylene

Consumer Products VOC Regulations: For users in California, Connecticut, Delaware, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, and Rhode Island, this product is an Energized Electrical Cleaner. Energized equipment use only. Not to be used for motorized vehicle maintenance or their parts.

State Right to Know:

New Jersey:	127-18-4, 124-38-9
Pennsylvania:	127-18-4, 124-38-9
Massachusetts:	127-18-4, 124-38-9
Rhode Island :	127-18-4, 124-38-9

Canadian Regulations:

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

WHMIS Hazard Class: A, D1B, D2A, D2B

European Union Regulations:

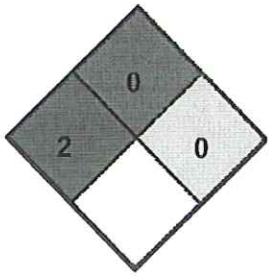
RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	2
Flammability:	0
Reactivity:	0
PPE:	B

NFPA



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 491G
Revision Date: 05/17/2010

Changes since last revision: Section 15: Consumer Products VOC Regulations revised

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose
NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System

MATERIAL SAFETY DATA SHEET

4710
02 00

DATE OF PREPARATION
Aug 25, 2009

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
4710
PRODUCT NAME
NAPA® Mac's® Electronic Cleaner
MANUFACTURER'S NAME
Manufactured by:
The Sherwin-Williams Co.
Diversified Brands
Cleveland, OH 44115

Distributed by:
Balkamp Headquarters
P. O. Box 421268
Indianapolis, IN 46242

Telephone Numbers and Websites

Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300

*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
19	142-82-5	Heptane		50 mm
		ACGIH TLV	400 PPM	
		ACGIH TLV	500 PPM STEL	
		OSHA PEL	400 PPM	
		OSHA PEL	500 PPM STEL	
50	64-17-5	Ethanol		
		ACGIH TLV	1000 PPM	44 mm
		OSHA PEL	1000 PPM	
5	67-63-0	2-Propanol		33 mm
		ACGIH TLV	200 PPM	
		ACGIH TLV	400 PPM STEL	
		OSHA PEL	400 PPM	
19	79-20-9	Methyl Acetate		171 mm
		ACGIH TLV	200 PPM	
		ACGIH TLV	250 PPM STEL	
		OSHA PEL	200 PPM	
		OSHA PEL	250 PPM STEL	
6	124-38-9	Carbon Dioxide		
		ACGIH TLV	5000 PPM	760 mm
		OSHA PEL	5000 PPM	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.
Contains alcohols and acetates which can be absorbed through the skin.

EFFECTS OF OVEREXPOSURE
EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

HMIS Codes

Health	2
Flammability	4
Reactivity	0

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to liver systems.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	EXTINGUISHING MEDIA
9 °F PMCC	1.0	19.0	Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

- Remove all sources of ignition. Ventilate the area.
- Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 1 20F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PROTECTIVE EQUIPMENT
Use of barrier cream on exposed skin is recommended.
OTHER PRECAUTIONS
Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.66 lb/gal	798 g/l
SPECIFIC GRAVITY	0.80	
BOILING POINT	<0 - 238 °F	<-18 - 114 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	100%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	7.0	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)
Volatile Weight 75.00% Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable
CONDITIONS TO AVOID
None known.
INCOMPATIBILITY
None known.
HAZARDOUS DECOMPOSITION PRODUCTS
By fire: Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION
Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
TOXICOLOGY DATA

CAS No.	Ingredient Name			
142-82-5	Heptane			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
64-17-5	Ethanol			
		LC50 RAT	4HR	Not Available
		LD50 RAT		7060 mg/kg
67-63-0	2-Propanol			
		LC50 RAT	4HR	Not Available
		LD50 RAT		5045 mg/kg
79-20-9	Methyl Acetate			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
124-38-9	Carbon Dioxide			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION
No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD
Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

US Ground (DOT)

May be classed as Consumer Commodity, ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as Consumer Commodity, ORM-D
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other

additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

Product name: HIT–RE 500

Description: High strength adhesive for anchoring in concrete. (Part A is the large tube)

Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121

Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:		CAS Number:	TLV:	PEL:	STEL:
Part A:	Bisphenol A epoxy resin	25068-38-6	NE	NE	NE
	Bisphenol F epoxy resin	28064-14-4	NE	NE	NE
	Quartz sand	14808-60-7	0.025 mg/m^3 (R)	$\frac{10\ mg/m^3}{\%\ SiO_2 + 2}$	NE
	Alkylglycidyl ether	19136100-5012 *	NE	NE	NE
	Diglycidyl ether	19136100-5013 *	NE	NE	NE
	Siloxanes & silicones	67762-90-7	NE	NE	NE
Part B:	m-xylene diamine	01477-55-0	C: 0.1 / S	C: 0.1 / S	NE
	Aliphatic polyamine	19136100-5014 *	NE	NE	NE
	Quartz sand	14808-60-7	0.025 mg/m^3 (R)	$\frac{10\ mg/m^3}{\%\ SiO_2 + 2}$	NE
	Aluminum oxide	01344-28-1	10 mg/m^3	15 mg/m^3 (T)	NE
	Cement	65997-16-2	NE	NE	NE
	Siloxanes & silicones	67762-90-7	NE	NE	NE

Abbreviations: * = indicates New Jersey Trade Secret Registry Number. **C** = Ceiling. **NE** = None Established. **R** =dust "respirable" fraction. **S** = Skin exposure, including the mucous membranes, eyes, and skin. **T** = "total" dust. **TLV** = ACGIH Threshold Limit Values. **PEL** = OSHA Permissible Exposure Limits. **STEL** = ACGIH/OSHA Short Term Exposure Limit

PHYSICAL DATA

Appearance and Odor:	A: Gray; B: red / paste. Amine-like odor.	**VOC Content:**	4.0 g/l
Boiling Point:	Approx. 212° F	**Vapor Pressure:**	Not determined.
Vapor Density: (air = 1)	Not determined.	**Odor Threshold:**	Not determined
Evaporation Rate:	Not applicable.	**Solubility in Water:**	Insoluble .
Specific Gravity:	1.5	**pH:**	11 (Part B with 1:1 water)

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	> 200° F	**Flammable Limits:**	Not applicable.
Extinguishing Media:	CO_2, Dry Chemical, Foam, Water Spray.		
Special Fire Fighting Procedures:	A self-contained breathing apparatus should be worn when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None known. Thermal decomposition products can be formed including CO_X, NO_X, water and carbon.		

REACTIVITY DATA

Stability:	Stable.	**Hazardous Polymerization:**	Will not occur.
Incompatibility:	Strong acids and oxidizing agents.		
Decomposition Products:	Thermal decomposition can yield CO_X, NO_X, water and carbon.		
Conditions to Avoid:	Avoid temperature extremes that could shorten the shelf-life of this product. (See handling and storage requirements for recommended storage temperatures).		

HEALTH HAZARD DATA

Known Hazards:	**Part A:** Eye and skin irritation. Possible skin sensitizer. **Part B:** Corrosive
Signs and Symptoms of Exposure:	**Part A:** Can be irritating to the eyes and skin, Can cause skin sensitization with some individuals (itching, redness, swelling). **Part B:** Can cause eye and skin burns. Vapors can be irritating. If swallowed, can cause burns.

Routes of Exposure:	Contact. Inhalation.
Carcinogenicity:	IARC classifies crystalline silica (quartz sand) as a Group I carcinogen based upon evidence among workers in industries where there has been long-term and chronic exposure (via inhalation) to silica dust; e.g. mining, quarry, stone crushing, refractory brick and pottery workers. This product does not pose a dust hazard; therefore, this classification is not relevant.
Medical Conditions Aggravated by Exposure:	Eye, skin, and respiratory conditions.

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Flush **immediately** with water for at least 15 minutes. Contact a Physician if symptoms occur.
Skin:	Wash **immediately** with soap and water. Launder contaminated clothing before reuse. Seek medical attention if any symptoms occur.
Inhalation:	If symptoms occur, move to fresh air. Call a physician if symptoms persist.
Ingestion:	Do not induce vomiting unless directed by a physician. Contact a Physician immediately.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Chemical goggles recommended.
Skin Protection:	Impermeable gloves recommended.
Respiratory Protection:	None normally required. Where ventilation is inadequate to control vapors, use a NIOSH-approved respirator with organic vapor cartridges.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	For industrial use only. Keep away from children. Use with adequate ventilation. Avoid contact with the eyes or skin. Practice good hygiene; i.e. wash after using and before eating or smoking. Store in a cool dry area between 41° and 77° F (5 - 25° C). Keep from freezing.
Spill Procedures:	Take up with an absorbent material and place in a container for proper disposal.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
HMIS Codes:	Health 3, Flammability 1, Reactivity 0, PPE B
DOT Shipping Name:	Consumer commodity, ORM-D
IATA / ICAO Shipping Name:	Amines, solid, corrosive, n.o.s. (M-xylenediamine), Class 8, UN3259, PG II
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product does not contain any toxic chemicals which are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	**Technical Service:**	1 800 879 8000
Health / Safety:	1 800 879 6000 Jerry Metcalf (x1003704)		
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.

Material Safety Data Sheet

An RPM Company

24 Hour Emergency Phone Numbers:
Medical/Poison Control:
In U.S.: Call 1-800-222-1222
Outside U.S.: Call your local poison control center
Transportation/National Response Center:
1-800-535-5053
1-352-323-3500

NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in Canadian French and Hispanic American Spanish upon request.
On peut demader cette fiche signalétique (MSDS) a la langue francaise-canadienne.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name: DAPtex® Plus Window & Door Foam Sealant
Product UPC Number: 070798188365
Product Use/Class: Pressurized Latex Foam
Manufacturer: **DAP Inc.**
2400 Boston Street Suite 200
Baltimore, MD 21224-4723
888-327-8477 (non-emergency matters)

Revision Date: 03/13/2009
Supersedes: 09/04/2008
MSDS Number: 00077344001

Section 2 - Hazards Identification

Emergency Overview: A white to off-white liquid product with a slight alcoholic odor. DANGER! Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. May cause eye, skin, nose, throat and respiratory tract irritation. Vapors harmful if inhaled. Harmful if swallowed or absorbed through the skin. Contents under pressure. Do not puncture can. Exposure to temperatures above 120 'F may cause can to rupture. This product contains ethylene glycol.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: May cause eye irritation. Corrosive to the eyes! Direct contact with eyes will cause severe irritation and may lead to burns and permanent eye damage including blindness. Mists and vapors may cause moderate to severe eye irritation.

Effects Of Overexposure - Skin Contact: May cause skin irritation and/or dermatitis. May cause allergic skin reaction or sensitization. Harmful if absorbed through the skin. May be corrosive on prolonged contact.

Allergic contact dermatitis is a common effect of occupational exposure to bisphenol A diglycidyl ether. Exposure to bisphenol A diglycidyl ether may result in severe burns to the skin. Eczema, urticaria, photodermatitis, erythema, persistent itching, severe facial swelling, blistering and erythema multiforme have been reported after dermal exposure to bisphenol A diglycidyl ether. Sclerotic skin changes are possible.

Effects Of Overexposure - Inhalation: Harmful if inhaled. Exposure to bisphenol A diglycidyl ether vapors may result in coughing, asthmatic attacks and bronchospasm persisting for several days. Bronchospasm may also occur. Organic acid anhydrides may produce an asthma-rhinitis syndrome, a flu-like syndrome, pulmonary disease-anemia syndrome, or irritant respiratory effects. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or

fatal. Overexposure to fumes or vapors may cause delayed lung damage and chemical pneumonia.

Effects Of Overexposure - Ingestion: Ingestion of ethylene glycol can cause gastrointestinal irritation, nausea, vomiting, diarrhea and if ingested in sufficient quantities, death. Harmful or fatal if swallowed. If ingested, may cause vomiting, diarrhea, and depressed respiration. Ingestion of bisphenol A diglycidyl ether may results in oral and esophageal burns. May be harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: Repeated or prolonged exposure may cause skin, respiratory, kidney and liver damage. Prolonged and repeated skin contact may cause irritation and possibly dermatitis. May aggravate existing skin, eye or lung conditions. Prolonged, repeated, or high exposures may cause weakness and depression of the central nervous system.

Ethylene Glycol may cause kidney and liver damage upon prolonged and repeated overexposures. Studies have shown that repeated inhalation of ethylene glycol has produced adverse cardiovascular changes in laboratory animals. Ethylene glycol has been shown to cause birth defects in laboratory animals.

This product contains vinyl acetate which is classified as a class 2B carcinogen by IARC. Vinyl acetate was found to cause cancer in the respiratory tract of laboratory animals. There is no evidence that vinyl acetate causes cancer in humans. The IARC published a monograph on vinyl acetate (1995). In this monograph, IARC indicates "there is inadequate evidence in humans for carcinogenicity of vinyl acetate. There is limited evidence in experimental animals for the carcinogenicity of vinyl acetate." Normally, this lack of conclusive evidence would place a substance in the IARC 3 classification (not classified as a human carcinogen). However, because vinyl acetate is metabolized to acetaldehyde, which has an IARC 2B (possibly carcinogenic to humans) classification, it also has been listed under Category 2B.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Eye Contact

Medical Conditions which May be Aggravated by Exposure: Colds, allergies, eczema, psoriasis, and other skin conditions, emphysema, asthma and other respiratory disorders.

Carcinogenicity:

CAS No.	Chemical Name	ACGIH	OSHA	IARC	NTP
108-05-4	Vinyl acetate	Confirmed animal carcinogen with unknown relevance to humans.	Not Listed.	Possible carcinogen.	Not Listed.

Section 3 - Composition / Information On Ingredients

Chemical Name	CASRN	Wt%
Isopropyl alcohol	67-63-0	1-5
Ethylene glycol	107-21-1	1-5
Dimethyl ether	115-10-6	1-5
Propane	74-98-6	1-5
n-Butane	106-97-8	1-5
Vinyl acetate	108-05-4	0.1-1.0

Section 4 - First Aid Measures

First Aid - Eye Contact: In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

First Aid - Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing. If skin irritation persists, call a physician.

First Aid - Inhalation: If inhaled, remove to fresh air. If breathing is difficult, leave the area to obtain fresh air. If

continued breathing difficulty is experienced, get medical attention immediately. Move patient to fresh air. Monitor for respiratory distress. If cough or difficulty breathing develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis. Administer oxygen and assist ventilation as required. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately. Immediately dilute with 4 to 8 ounces (120 to 240 mL) of water or milk (not to exceed 4 ounces/120 mL in a child).

Note to Physician: None.

COMMENTS: If over-exposure occurs, call your poison control center at 1-800-222-1222.

Section 5 - Fire Fighting Measures

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: Store away from caustics and oxidizers. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Containers may explode if exposed to extreme heat. Eliminate sources of ignition: heat, electrical equipment, sparks and flames.

Special Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Use absorbent material or scrape up dried material and place in container.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Keep away from open flames, hot surfaces and sources of ignition. Open all windows and doors or use other means to ensure cross-ventilation and fresh air entry during application and drying. Odor is not an adequate warning for hazardous conditions. Use only with adequate ventilation. Provide fresh air such that chemical odors cannot be detected during use and while drying. Avoid breathing vapor and contact with eyes, skin and clothing. Wash thoroughly after handling. Construction and repair activities can adversely affect indoor air quality. Consult with occupants or a representative (i.e. maintenance, building manager, industrial hygienist, or safety officer) to determine ways to minimize impact.

Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal. Make sure nozzle is directed away from yourself prior to discharge.

Storage: Keep away from heat and sources of ignition. Do not store at temperatures above 120 degrees F. Store containers away from excessive heat and freezing. Protect material from direct sunlight. Store away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Chemical Name	CASRN	ACGIH TWA	ACGIH STEL	ACGIH CEIL	OSHA TWA	OSHA STEL	OSHA CEIL	Skin
Isopropyl alcohol	67-63-0	200 PPM	400 PPM	N.E.	400 PPM	N.E.	N.E.	No
Ethylene glycol	107-21-1	N.E.	N.E.	100 MGM3	N.E.	N.E.	N.E.	No
Dimethyl ether	115-10-6	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	No
Propane	74-98-6	1000 PPM	N.E.	N.E.	1000 PPM	N.E.	N.E.	No
n-Butane	106-97-8	1000 PPM	N.E.	N.E.	N.E.	N.E.	N.E.	No
Vinyl acetate	108-05-4	10 PPM	15 PPM	N.E.	N.E.	N.E.	N.E.	No

Precautionary Measures: Please refer to other sections and subsections of this MSDS.

Engineering Controls: Good general ventilation should be sufficient to control airborne levels. Ensure adequate ventilation, especially in confined areas. Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits. Provide sufficient general and/or local exhaust ventilation to maintain exposure below recommended exposure limit. Highly flammable vapors are heavier than air and may accumulate in low areas. Vapors are heavier than air and may spread along floors. Check all low areas for presence of vapor. Refer to OSHA Standards 29 CFR 1910.94 and 29 CFR 1910.107.

Respiratory Protection: If concentrations exceed the exposure limits specified, use of a NIOSH-approved supplied air respirator is recommended. Where the protection factor is exceeded, use of a Self Contained Breathing Apparatus (SCBA) may be necessary. In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH-approved air purifying respirator with an organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. No personal respiratory protective equipment normally required.

Skin Protection: Rubber gloves.

Eye Protection: Goggles or safety glasses with side shields.

Other protective equipment: Not required under normal use.

Hygienic Practices: Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices.

Section 9 - Physical And Chemical Properties

Boiling Range:	Not Established	**Vapor Density:**	Heavier Than Air
Odor:	Slight Alcoholic	**Odor Threshold:**	Not Established
Color:	White to Off-White	**Evaporation Rate:**	Slower Than n-Butyl Acetate
Solubility in H2O:	Not Established	**Specific Gravity:**	1.0
Freeze Point:	Not Established	**pH:**	Between 7.0 and 12.0
Vapor Pressure:	Not Established	**Viscosity:**	Not Established
Physical State:	Liquid	**Flammability:**	Level I Aerosol
Flash Point, F:	Aerosol	**Method:**	(Not Applicable)
Lower Explosive Limit, %:	Not Established	**Upper Explosive Limit, %:**	Not Established

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Excessive heat and freezing.

Incompatibility: Incompatible with strong bases and oxidizing agents.

Hazardous Decomposition Products: Normal decomposition products, i.e., COx, NOx.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under recommended storage conditions.

Section 11 - Toxicological Information

Product LD50: Not Established **Product LC50:** Not Established

CASRN	Chemical Name	LD50	LC50
67-63-0	Isopropyl alcohol	Rat:5045 mg/kg	Rat:16000 ppm/8H
107-21-1	Ethylene glycol	Rat:4700 mg/kg	Rat:10876 mg/kg
108-05-4	Vinyl acetate	----------	Rat:11400 mg/m3/4H

Significant Data with Possible Relevance to Humans: One animal study showed that in utero exposure (not neonatal) of rats to bisphenol A promotes uterine disruption (thinning of the uterine epithelium during estrus) in offspring, probably by influencing expression and distribution of these receptors.

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

EPA Waste Code if Discarded (40 CFR Section 261): D001 if residue remains.

Section 14 - Transportation Information

DOT Proper Shipping Name: Aerosols, flammable
DOT Technical Name: N.A.
DOT Hazard Class: 2.1
Packing Group: N.A.
Hazard Subclass: N.A.
DOT UN/NA Number: UN1950

Note: The shipping information provided is applicable for domestic ground transport only. Different categorization may apply if shipped via other modes of transportation and/or to non-domestic destinations.

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category:

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard, Chronic Health Hazard, Fire Hazard, Pressurized Hazard

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number
Isopropyl alcohol	67-63-0
Ethylene glycol	107-21-1
Vinyl acetate	108-05-4

Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

Chemical Name	CAS Number
Non-Hazardous Polymer	Proprietary
Water	7732-18-5

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

Chemical Name	CAS Number
Non-Hazardous Polymer	Proprietary
Water	7732-18-5

California Proposition 65:

None.

Section 16 - Other Information

HMIS Ratings:

Health: 1 Flammability: 3 Reactivity: 0 Personal Protection: X

Volatile Organic Compounds (VOC), less water less exempts: g/L: 170.4 lb/gal: 1.4 wt:wt%: 11.3

Volatile Organic Compounds (VOC), less water less exempts, less LVP -VOCs: wt:wt%: 8.9

REASON FOR REVISION: Periodic Update

Legend:

N.A. – Not Applicable

N.E. – Not Established

N.D. – Not Determined

VOC – Volatile Organic Compound

PEL – Permissible Exposure Limit

TLV – Threshold Limit Value

CEIL – Ceiling Exposure Limit

LD50 – Lethal Dose 50

F – Degree Fahrenheit

C – Degree Celsius

ACGIH – American Conference of Governmental Industrial Hygienists

SARA – Superfund Amendments and Reauthorization Act of 1986

NJRTK – New Jersey Right-to-Know Law

OSHA – Occupational Safety and Health Administration

HMIS – Hazardous Materials Identification System

NTP – National Toxicology Program

STEL – Short Term Exposure Limit

LC50 – Lethal Concentration 50

MSDS – Material Safety Data Sheet

CASRN – The Chemical Abstracts Service Registry Number

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>

Material Safety Data Sheet
The Dow Chemical Company

Product Name: GREAT STUFF(TM) Big Gap Filler Insulating Foam Sealant 16oz HC ES QP

Issue Date: 04/17/2008

Print Date: 02 Nov 2009

The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name

GREAT STUFF(TM) Big Gap Filler Insulating Foam Sealant 16oz HC ES QP

COMPANY IDENTIFICATION

The Dow Chemical Company
2030 Willard H. Dow Center
Midland, MI 48674
USA

Customer Information Number: 800-258-2436

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 989-636-4400
Local Emergency Contact: 989-636-4400

2. Hazards Identification

Emergency Overview

Color: Yellow
Physical State: Foam
Odor: Mild
Hazards of product:

DANGER! Flammable gas - May cause flash fire. May cause allergic skin reaction. May cause allergic respiratory reaction. May cause eye irritation. May cause skin irritation. May cause lung injury. Vapor reduces oxygen available for breathing. May cause anesthetic effects. May cause respiratory tract irritation. May react with water. Evacuate area. Keep upwind of spill. Stay out of low areas. Elevated temperatures can cause hazardous polymerization. Toxic fumes may be released in fire situations. Contents under pressure. Avoid temperatures above 105F (41C).

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects

Eye Contact: May cause eye irritation. May cause slight temporary corneal injury.
Skin Contact: Prolonged contact may cause moderate skin irritation with local redness. Material may stick to skin causing irritation upon removal. May stain skin.
Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Skin Sensitization: Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.
Inhalation: In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. May cause central nervous system depression. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats). Decreased lung function has been associated with overexposure to isocyanates.
Respiratory Sensitization: May cause allergic respiratory response. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.
Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Observations in animals include: Gastrointestinal irritation.
Effects of Repeated Exposure: Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols. Contains component(s) which have been reported to cause effects on the following organs in animals: Kidney. Liver. Bone marrow. Contains a component which is reported to be a weak organophosphate-type cholinesterase inhibitor. Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions.
Cancer Information: Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.
Birth Defects/Developmental Effects: In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

3. Composition Information

Component	CAS #	Amount
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	>= 10.0 - <= 30.0 %
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 5.0 - <= 10.0 %
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly	57029-46-6	>= 15.0 - <= 40.0 %
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	>= 15.0 - <= 40.0 %
Paraffin waxes and Hydrocarbon waxes, chlorinated	63449-39-8	>= 5.0 - <= 10.0 %
Tris(1-chloro-2-propyl) phosphate	13674-84-5	>= 5.0 - <= 10.0 %
Isobutane	75-28-5	>= 5.0 - <= 10.0 %
Propane	74-98-6	>= 1.0 - <= 5.0 %
Methyl ether	115-10-6	>= 1.0 - <= 5.0 %

Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9.

4. First-aid measures

Eye Contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.
Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.
Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.
Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.
Notes to Physician: Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Although cholinesterase depression has been reported with this material, it is not of benefit in determining exposure and need not be considered in the treatment of persons exposed to the material. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
Medical Conditions Aggravated by Exposure: Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. Fire Fighting Measures

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out.
Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.
Unusual Fire and Explosion Hazards: Contains flammable propellant. Aerosol cans exposed to fire can rupture and become flaming projectiles. Propellant release may result in a fireball. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Dense smoke is produced when product burns.
Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

6. Accidental Release Measures

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Absorb with materials such as: Sawdust. Dirt. Vermiculite. Sand. Clay. Cob grit. Milsorb®. Do NOT use absorbent materials such as: Cement powder (Note: may generate heat). Collect in suitable and properly labeled open containers. Do not place in sealed containers. Suitable containers include: Metal drums. Plastic drums. Polylined fiber pacs. Wash the spill site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: Formulation 1: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR Formulation 2: concentrated ammonia solution 3 - 8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure. Pump with explosion-proof equipment. If available, use foam to smother or suppress. Contact Dow for clean-up assistance. See Section 13, Disposal Considerations, for additional information.
Personal Precautions: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Evacuate area. Refer to Section 7, Handling, for additional precautionary measures. Keep personnel out of low areas. Keep personnel out of confined or poorly ventilated areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. Only trained and properly protected personnel must be involved in clean-up operations. Confined space entry procedures must be followed before entering the area. If available, use foam to suppress vapors. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. For large spills, warn public of downwind explosion hazard. Vapor explosion hazard. Keep out of sewers. See Section 10 for more specific information.
Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. Handling and Storage

Handling

General Handling: Keep away from heat, sparks and flame. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Avoid breathing vapor. Use only with adequate ventilation. Keep container closed. No smoking, open flames or sources of ignition in handling and storage area. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Contents under pressure. Do not puncture or incinerate container. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. Do not enter confined spaces unless adequately ventilated. Keep out of reach of children. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Storage

Store in a dry place. Protect from atmospheric moisture. Minimize sources of ignition, such as static build-up, heat, spark or flame. Do not store product contaminated with water to prevent potential hazardous reaction. See Section 10 for more specific information.

Storage Period: 12 Months
Storage temperature: 20 - 30 °C

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
4,4' -Methylenediphenyl diisocyanate	ACGIH	TWA	0.005 ppm
	OSHA Table Z-1	Ceiling	0.2 mg/m3 0.02 ppm
Methyl ether	WEEL	TWA	1,880 mg/m3 1,000 ppm

Isobutane	ACGIH	TWA	1,000 ppm
Propane	OSHA Table Z-1	PEL	1,800 mg/m3 1,000 ppm
	ACGIH	TWA	1,000 ppm

Personal Protection

Eye/Face Protection: Use safety glasses. Eye wash fountain should be located in immediate work area.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Viton. Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls

Ventilation: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure.

9. Physical and Chemical Properties

Physical State	Foam
Color	Yellow
Odor	Mild
Flash Point - Closed Cup	-104 °C (-155 °F) *Estimated*
Flammable Limits In Air	**Lower**: No test data available **Upper**: No test data available
Autoignition Temperature	No test data available
Vapor Pressure	1,151 kPa @ 55 °C *Estimated*
Boiling Point (760 mmHg)	Not applicable.
Vapor Density (air = 1)	No test data available
Specific Gravity (H2O = 1)	1.06 *Estimated*
Freezing Point	No test data available
Melting Point	No test data available

Solubility in Water (by weight)	Insoluble
pH	*Not applicable*
Kinematic Viscosity	Not applicable

10. Stability and Reactivity

Stability/Instability

Stable under recommended storage conditions. See Storage, Section 7. Unstable at elevated temperatures.
Conditions to Avoid: Avoid temperatures above 49 °C (120 °F). Elevated temperatures can cause container to vent and/or rupture. Exposure to elevated temperatures can cause product to decompose.

Incompatible Materials: Avoid contact with: Acids. Alcohols. Amines. Ammonia. Bases. Metal compounds. Strong oxidizers. Products based on diisocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Hazardous Polymerization

Can occur. Elevated temperatures can cause hazardous polymerization.

Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

11. Toxicological Information

Acute Toxicity

Ingestion

Single dose oral LD50 has not been determined. Estimated LD50, Rat > 2,000 mg/kg

Skin Absorption

The LD50 has not been determined.

Sensitization

Skin

Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

Respiratory

May cause allergic respiratory response. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

Repeated Dose Toxicity

Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols. Contains component(s) which have been reported to cause effects on the following organs in animals: Kidney. Liver. Bone marrow. Contains a component which is reported to be a weak organophosphate-type cholinesterase inhibitor. Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions.

Chronic Toxicity and Carcinogenicity

Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Developmental Toxicity

In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Genetic Toxicology

In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

12. Ecological Information

ENVIRONMENTAL FATE

Data for Component: **Diphenylmethane Diisocyanate, isomers and homologues**

Movement & Partitioning

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Persistence and Degradability

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Data for Component: **4,4' -Methylenediphenyl diisocyanate**

Movement & Partitioning

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Persistence and Degradability

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Data for Component: **Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly**

Movement & Partitioning

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Persistence and Degradability

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Data for Component: **Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer**

Movement & Partitioning

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Persistence and Degradability

In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is

expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Data for Component: **Paraffin waxes and Hydrocarbon waxes, chlorinated**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7). Expected to be relatively immobile in soil (Koc > 5000). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Henry's Law Constant (H): < 1.0E-07 atm*m3/mole; 25 °C Estimated
Partition coefficient, n-octanol/water (log Pow): 7.4 Estimated
Partition coefficient, soil organic carbon/water (Koc): > 5,000 Estimated

Persistence and Degradability

Expected to degrade only slowly in the environment.
Theoretical Oxygen Demand: 2.89 mg/mg

Data for Component: **Tris(1-chloro-2-propyl) phosphate**

Movement & Partitioning

Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Potential for mobility in soil is low (Koc between 500 and 2000).
Henry's Law Constant (H): < 1.35E-5 atm*m3/mole; 25 °C Estimated
Partition coefficient, n-octanol/water (log Pow): 2.59 Measured
Partition coefficient, soil organic carbon/water (Koc): 1,300 Estimated
Bioconcentration Factor (BCF): 0.8 - 4.6; common carp (Cyprinus carpio); Measured

Persistence and Degradability

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
4.47E-11 cm3/s	0.24 d	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
14 %	28 d	OECD 301E Test

Theoretical Oxygen Demand: 1.17 mg/mg

Data for Component: **Isobutane**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).
Henry's Law Constant (H): 1.19E+00 atm*m3/mole; 25 °C Measured
Partition coefficient, n-octanol/water (log Pow): 2.76 Measured
Partition coefficient, soil organic carbon/water (Koc): 35 Estimated
Distribution in Environment: Mackay Level 1 Fugacity Model:

Air	Water.	Biota	Soil	Sediment
100 %	0 %	0 %	0 %	0 %

Persistence and Degradability

Biodegradation may occur under aerobic conditions (in the presence of oxygen).
Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
2.44E-12 cm3/s	4.4 d	Estimated

Theoretical Oxygen Demand: 3.58 mg/mg

Data for Component: **Propane**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).
Henry's Law Constant (H): 7.07E-01 atm*m3/mole; 25 °C Measured
Partition coefficient, n-octanol/water (log Pow): 2.36 Measured
Partition coefficient, soil organic carbon/water (Koc): 24 - 460 Estimated
Distribution in Environment: Mackay Level 1 Fugacity Model:

Air	Water.	Biota	Soil	Sediment
100 %	0 %	0 %	0 %	0 %

Persistence and Degradability

No relevant information found.

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.27E-12 cm3/s	8.4 d	Estimated

Theoretical Oxygen Demand: 3.64 mg/mg

Data for Component: **Methyl ether**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).
Henry's Law Constant (H): 9.78E-4 atm*m3/mole; 25 °C Measured
Partition coefficient, n-octanol/water (log Pow): 0.10 Measured
Partition coefficient, soil organic carbon/water (Koc): 1.29 - 14 Estimated

Persistence and Degradability

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.66E-12 cm3/s	6.4 d	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
5 %	28 d	OECD 301A Test

Theoretical Oxygen Demand: 2.08 mg/mg

ECOTOXICITY

Data for Component: **Diphenylmethane Diisocyanate, isomers and homologues**

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Toxicity to Soil Dwelling Organisms

LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg

Data for Component: **4,4' -Methylenediphenyl diisocyanate**

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Toxicity to Soil Dwelling Organisms

LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg

Data for Component: **Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly**

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Toxicity to Soil Dwelling Organisms

LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg

Data for Component: **Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer**

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Toxicity to Soil Dwelling Organisms

LC50, Earthworm Eisenia foetida, adult, 14 d: > 1,000 mg/kg

Data for Component: **Paraffin waxes and Hydrocarbon waxes, chlorinated**

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in most sensitive species).

Fish Acute & Prolonged Toxicity
LC50, rainbow trout (Oncorhynchus mykiss), static, 96 h: > 100 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, immobilization: 0.037 mg/l

Data for Component: **Tris(1-chloro-2-propyl) phosphate**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, bluegill (Lepomis macrochirus), 96 h: 84 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, 48 h, immobilization: 63 mg/l
Aquatic Plant Toxicity
EC50, green alga Selenastrum capricornutum, biomass growth inhibition, 96 h: 47 mg/l
EC50, alga Scenedesmus sp., biomass growth inhibition, 72 h: 45 mg/l
Toxicity to Micro-organisms
EC50, OECD 209 Test; activated sludge, respiration inhibition, 3 h: 784 mg/l

Data for Component: **Isobutane**

No relevant information found.

Data for Component: **Propane**

No relevant information found.

Data for Component: **Methyl ether**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, guppy (Poecilia reticulata), 96 h: > 4,000 mg/l
Aquatic Invertebrate Acute Toxicity
LC50, water flea Daphnia magna, 48 h: > 4,000 mg/l

13. Disposal Considerations

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details.

14. Transport Information

DOT Non-Bulk
NOT REGULATED

CONSUMER COMMODITY RECLASSIFIED AS ORM-D MATERIAL

DOT Bulk
NOT REGULATED

IMDG
Proper Shipping Name: AEROSOLS
Hazard Class: 2.1 **ID Number:** UN1950
EMS Number: F-D,S-U

LIMITED QUANTITY

ICAO/IATA
Proper Shipping Name: AEROSOLS
Hazard Class: 2.1 **ID Number:** UN1950**Cargo Packing Instruction:** 203
Passenger Packing Instruction: 203

LIMITED QUANTITY

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	Yes
Reactive Hazard	No
Sudden Release of Pressure Hazard	Yes

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Component	CAS #	Amount
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 5.0 - <= 10.0 %
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	>= 5.0 - <= 10.0 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 5.0 - <= 10.0 %
Isobutane	75-28-5	>= 5.0 - <= 10.0 %
Methyl ether	115-10-6	>= 1.0 - <= 5.0 %
Propane	74-98-6	>= 1.0 - <= 5.0 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:
The following product components are cited in the Pennsylvania Special Hazardous Substance List, and are present at levels which require reporting.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

US. Toxic Substances Control Act
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30
CEPA - Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. Other Information

Recommended Uses and Restrictions
Polyurethane foam.

Revision
Identification Number: 67482 / 0000 / Issue Date 04/17/2008 / Version: 2.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

The Dow Chemical Company urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

Material Safety Data Sheet

MSDS ID NO.: 0104SPE012
Revision date: 05/25/2011

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Speedway Regular Unleaded Gasoline
Synonym: Regular Unleaded Gasoline, Speedway; Gasoline, Speedway Regular Unleaded
Chemical Family: Petroleum Hydrocarbon
Formula:

Formula: Mixture

Manufacturer:
Speedway LLC
P.O. Box 1500
Enon, OH 45501

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Gasoline is a complex combination of hydrocarbons consisting of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons having carbon numbers predominantly greater than C3 and boiling in the range of 85-500 F. Can contain small amounts of dye and other additives (>0.02%) which are not considered hazardous at the concentrations used.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Speedway Regular Unleaded Gasoline	86290-81-5	100	300 ppm TWA 500 ppm STEL		

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Saturated Hydrocarbons	Mixture	55-85			

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Aromatic Hydrocarbons	Mixture	10-40			
Unsaturated Hydrocarbons	Mixture	1-15			
Toluene	108-88-3	1-15	20 ppm TWA	= 100 ppm TWA = 375 mg/m³ TWA = 150 ppm STEL = 560 mg/m³ STEL	
Xylene	1330-20-7	2-10	100 ppm TWA 150 ppm STEL	= 100 ppm TWA = 435 mg/m³ TWA = 150 ppm STEL = 655 mg/m³ STEL	
1,2,4-Trimethylbenzene	95-63-6	1-5	= 25 ppm TWA	= 125 mg/m³ TWA = 25 ppm TWA	
Benzene	71-43-2	0.5-3.5	Skin - potential significant contribution to overall exposure by the cutaneous route 0.5 ppm TWA 2.5 ppm STEL	= 25 ppm Ceiling = 10 ppm TWA = 50 ppm STEL	OSHA Exposure Limit as specified in 1910.1028: =1.0 ppm TWA = 5 ppm STEL = 0.5 ppm Action Level
Hexane	110-54-3	0-3	Skin - potential significant contribution to overall exposure by the cutaneous route 50 ppm TWA	= 180 mg/m³ TWA = 50 ppm TWA	
Ethyl Benzene	100-41-4	0.5-2.0	100 ppm TWA 125 ppm STEL	= 100 ppm TWA = 435 mg/m³ TWA = 125 ppm STEL = 545 mg/m³ STEL	
Napthalene	91-20-3	0.1-.5	Skin - potential significant contribution to overall exposure by the cutaneous route 10 ppm TWA 15 ppm STEL	= 10 ppm TWA = 50 mg/m³ TWA = 15 ppm STEL = 75 mg/m³ STEL	

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

Small amounts of methyl tertiary butyl ether (MTBE, less than 0.25%) may be present in this product as a result of transportation related activities.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!

FUMES MAY CAUSE EYE AND RESPIRATORY IRRITATION.
MAY BE HARMFUL OR FATAL IF SWALLOWED
MAY CAUSE LUNG DAMAGE
OVEREXPOSURE MAY CAUSE CNS DEPRESSION
BREATHING HIGH CONCENTRATIONS CAN CAUSE IRREGULAR HEARTBEATS WHICH MAY BE FATAL

DANGER - CONTAINS BENZENE - MAY CAUSE CANCER
CAN CAUSE LEUKEMIA AND OTHER BLOOD DISORDERS.
POTENTIAL REPRODUCTIVE HAZARD
SEE TOXICOLOGICAL INFORMATION SECTION FOR MORE INFORMATION

EXTREMELY FLAMMABLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE OR EXPLOSION
MATERIAL MAY ACCUMULATE STATIC CHARGE

STABLE

Inhalation:

Breathing high concentrations may be harmful.
May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure. Breathing high concentrations of this material, for example, in a confined space or by intentional abuse, can cause irregular heartbeats which can cause death. See Toxicological Effects (Section 11) for more information.

Ingestion:

Swallowing this material may be harmful.
May cause irritation of the mouth, throat and gastrointestinal tract.
May cause central nervous system depression or effects. Symptoms may include salivation, pain, nausea, vomiting and diarrhea. Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation" (see Inhalation section).

Skin contact:

Contact may cause reddening, itching and inflammation.
Skin contact may cause harmful effects in other parts of the body.

Eye contact:

Contact may cause pain and severe reddening and inflammation of the conjunctiva.
Effects may become more serious with repeated or prolonged contact.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Speedway Regular Unleaded Gasoline 86290-81-5	A2 - Possible Human Carcinogen		A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans	

Notes:

The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for the carcinogenicity of gasoline in humans. IARC determined that limited evidence of carcinogenicity in animals exists. IARC`s overall evaluation of gasoline, in spite of limited carcinogenicity evidence, has resulted in the IARC designation of gasoline as possibly carcinogenic to humans (Group 2B) because gasoline contains benzene.

IARC has determined that there is inadequate evidence for the carcinogenicity of gasoline engine exhaust in humans or animals. However, IARC`s overall evaluation on gasoline engine exhaust, in spite of the absence of carcinogenicity data, has resulted in the IARC designation of gasoline engine exhaust as possibly carcinogenic to humans (Group 2B) because of the presence of certain engine exhaust components.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Toluene 108-88-3		male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence	A4 - Not Classifiable as a Human Carcinogen	
Xylene 1330-20-7		male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence	A4 - Not Classifiable as a Human Carcinogen	
Benzene 71-43-2	Supplement 7 [1987], Monograph 29 [1982]	Known Human Carcinogen male rat-clear evidence; female rat-clear evidence; male mice-clear evidence; female mice-clear evidence	A1 - Confirmed Human Carcinogen	Present
Ethyl Benzene 100-41-4	Monograph 77 [2000]	male rat-clear evidence; female rat-some evidence; male mice-some evidence; female mice-some evidence	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans	Present
Napthalene 91-20-3	Monograph 82 [2002]	Reasonably Anticipated To Be A Human Carcinogen male rat-clear evidence; female rat-clear evidence; male mice-no evidence; female mice-some evidence	A4 - Not Classifiable as a Human Carcinogen	Present

Notes:

The International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and OSHA have determined that there is sufficient evidence for the carcinogenicity of benzene in humans (Group 1A).

The International Agency for Reasearch on Cancer (IARC) has determined that there is sufficient evidence for the carcinogenicity of alcoholic beverages (ethanol) in humans (Group 1).

The International Agency for Research on Cancer (IARC) has concluded that ethyl benzene is possibly carcinogenic to humans (Group 2B).

The International Agency for Research on Cancer (IARC) and the Environmental Protection Agency (EPA) have determined that naphthalene is a possible human carcinogen.

4. FIRST AID MEASURES

Eye Contact:

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. GET IMMEDIATE MEDICAL ATTENTION.

Skin Contact:

Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists. Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties.

Ingestion:

Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor for breathing difficulty.
Never give anything by mouth to an unconscious person. Keep affected person warm and at rest.
GET IMMEDIATE MEDICAL ATTENTION.

Inhalation:

Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

NOTES TO PHYSICIAN:

INHALATION: This material (or a component) sensitizes the myocardium to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.

INGESTION: If ingested this material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

Medical Conditions Aggravated By Exposure:

blood (anemia), bone marrow,
blood-forming organs, skin, respiratory system, lungs, liver, kidney,

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO2, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

5. FIRE FIGHTING MEASURES

Specific hazards:

This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

Special protective equipment for firefighters:

Avoid using straight water streams. Water may be ineffective in extinguishing low flash point fires, but can be used to cool exposed surfaces. Avoid excessive water spray application. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Keep run-off water out of sewers and water sources.

Flash point:	-50 F
Autoignition temperature:	C.A. 495 F
Flammable limits in air - lower (%):	1.4
Flammable limits in air - upper (%):	7.6

NFPA rating:

Health: 1
Flammability: 3
Instability: 0
Other: -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues. Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

For use as a motor fuel only. Product should never be used as a solvent due to its flammable and potentially toxic properties. Siphoning by mouth can result in lung aspiration which can be harmful or fatal.

Portable containers of 12 gallons (45 liters) or less should never be filled while they are in or on a motor vehicle or marine craft. Static electric discharge can ignite fuel vapors when filling non-grounded containers or vehicles on trailers. Containers should be placed on the ground. The nozzle spout must be kept in contact with the container before and during the entire filling operation. Use only approved containers. A buildup of static electricity can occur upon re-entry into a vehicle during fueling especially in cold or dry climate conditions. The charge is generated by the action of dissimilar fabrics (i.e., clothing and upholstery) rubbing across each other as a person enters/exits the vehicle. A flash fire can result from this discharge if sufficient flammable vapors are present. Therefore, do not get back in your vehicle while refueling. Cellular phones and other electronic devices may have the potential to emit electrical charges (sparks). Sparks in potentially explosive atmospheres (including fueling areas such as gas stations) could cause an explosion if sufficient flammable vapors are present. Therefore, turn off cellular phones and other electronic devices when working in potentially explosive atmospheres or keep devices inside your vehicle during refueling.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures:	Local or general exhaust required in an enclosed area or when there is inadequate ventilation.
Respiratory protection:	Approved organic vapor chemical cartridge or supplied air respirators should be worn for exposures to any components exceeding the TWA or STEL. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
Skin and body protection:	Use nitrile rubber, viton or PVA gloves for repeated or prolonged skin exposure.
Eye protection:	No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields.
Hygiene measures:	No special protective clothing is normally required. Select protective clothing depending on industrial operations. Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Clear Or Colored Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Clear or Colored
Odor:	Strong Hydrocarbon
Molecular weight:	100
pH:	Neutral
Boiling point/range (5-95%):	90-437 F
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Specific gravity:	0.70-0.77
Density:	5.9-6.3 lbs/gal
Bulk density:	No data available.
Vapor density:	3-4
Vapor pressure:	Not determined.
Evaporation rate:	No data available.
Solubility:	Not determined
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	2.13-4.5
VOC content(%):	100%
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	Excessive heat, sources of ignition, open flame.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Speedway Regular Unleaded Gasoline	86290-81-5	>10,000 ppm [Dog]	>5 ml/kg [Rabbit]	>14 ml/kg [Rat]

Toxicology Information:

BENZENE: Studies of Workers Overexposed to Benzene: Studies of workers exposed to benzene show clear evidence that overexposure can cause cancer and other diseases of the blood forming organs including Acute Myelogenous Leukemia (AML), and Aplastic Anemia (AA), an often fatal disease. Some studies suggest overexposure to benzene may also be associated with Myelodysplastic Syndrome (MDS). Findings from a Case-Control study of workers exposed to benzene was reported during the 2009 Benzene Symposium in Munich included an increase in Acute Myeloid Leukemias and Non-Hodgkins Lymphoid Neoplasms (NHLN) of the subtype follicular lymphoma (FL) in some occupational categories. Some studies of workers exposed to benzene have shown an association with increased rates of chromosome aberrations in circulating lymphocytes. One study of women workers exposed to benzene suggested a weak association with irregular menstruation. However, other studies of workers exposed to benzene have not demonstrated clear evidence of an effect on fertility or reproductive outcome in humans. Benzene can cross the placenta and affect the developing fetus. Cases of AA have been reported in the offspring of persons severely overexposed to benzene. Studies in laboratory animals indicate that prolonged, repeated exposure to high levels of benzene vapor can cause bone marrow suppression and cancer in multiple organ systems. Studies in laboratory animals show evidence of adverse effects on male reproductive organs following high levels of exposure but no significant effects on reproduction have been observed. Embryotoxicity has been reported in studies of laboratory animals but effects were limited to reduced fetal weight and minor skeletal variations. Benzene has been classified as a proven human carcinogen by OSHA and a Group 1 (Carcinogenic to Humans) material by IARC.
The current proposed IARC classification for benzene is summarized as follows: Sufficient evidence for Acute Myeloid Leukemia; limited evidence for Acute Lymphatic Leukemia, Chronic Lymphatic Leukemia, Non-Hodgkin Lymphoma, and Multiple Myeloma.

NAPHTHAS: In a large epidemiological study on over 15,000 employees at several petroleum refineries and amongst residents located near these refineries, no increased risk of kidney cancer was observed in association with gasoline exposures (a similar material). In a similar study, no increased risk of kidney cancer was observed among petroleum refinery workers, but there was a slight trend in the incidence of kidney cancers among service station employees, especially after a 30-year latency period.

ISOPARAFFINS: Studies in laboratory animals have shown that long-term exposure to similar materials (isoparaffins) can cause kidney damage and kidney cancer in male laboratory rats. However, in-depth research indicates that these findings are unique to the male rat, and that these effects are not relevant to humans.

TOLUENE: Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects. Abuse of toluene at high concentrations (e.g., glue sniffing and solvent abuse) has been associated with adverse effects on the liver, kidney and nervous system, and can cause CNS depression, cardiac arrhythmias, and death. Studies of workers indicate longterm exposure may be related to impaired color vision and hearing. Some studies of workers suggest longterm exposure may be related to neurobehavioral and cognitive changes. Some of these effects have been observed in laboratory animals following repeated exposure to high levels of toluene. Several studies of workers suggest longterm exposure may be related to small increases in spontaneous abortions and changes in some gonadotropic hormones. However, the weight of evidence does not indicate toluene is a reproductive hazard to humans. Studies in laboratory animals indicate some changes in reproductive organs following high levels of exposure, but no significant effects on mating performance or reproduction were observed. Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects. Findings in laboratory animals have been largely negative. Positive findings include small increases in minor

skeletal and visceral malformations and developmental delays following very high levels of maternal exposure. Studies of workers indicate long-term exposure may be related to effects on the liver, kidney and blood, but these appear to be limited to changes in serum enzymes and decreased leukocyte counts. Adverse effects on the liver, kidney, thymus and nervous system were observed in animal studies following very high levels of exposure. The relevance of these findings to humans is not clear at this time.

ETHYLBENZENE: Findings from a 2-year inhalation study in rodents conducted by NTP were as follows: Effects were observed only at the highest exposure level (750 ppm). At this level the incidence of renal tumors was elevated in male rats (tubular carcinomas) and female rats (tubular adenomas). The incidence of tumors was also elevated in male mice (alveolar and bronchiolar carcinomas) and female mice (hepatocellular carcinomas). IARC has classified ethyl benzene as "possibly carcinogenic to humans" (Group 2B). Studies in laboratory animals indicate some evidence of post-implantation deaths following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate limited evidence of renal malformations, resorptions, and developmental delays following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals have demonstrated evidence of ototoxicity (hearing loss) following exposure levels as low as 300 ppm for 5 days. Studies in laboratory animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

XYLENES, ALL ISOMERS: Overexposure to xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, CNS damage and narcosis. Effects may be increased by the use of alcoholic beverages. Evidence of liver and kidney impairment were reported in workers recovering from a gross overexposure. Effects from Prolonged or Repeated Exposure: Impaired neurological function was reported in workers exposed to solvents including xylene. Studies in laboratory animals have shown evidence of impaired hearing following high levels of exposure. Studies in laboratory animals suggest some changes in reproductive organs following high levels of exposure but no significant effects on reproduction were observed. Studies in laboratory animals indicate skeletal and visceral malformations, developmental delays, and increased fetal resorptions following extremely high levels of maternal exposure. The relevance of these observations to humans is not clear at this time. Adverse effects on the liver, kidney, bone marrow (changes in blood cell parameters) were observed in laboratory animals following high levels of exposure. The relevance of these observations to humans is not clear at this time.

C9 AROMATIC HYDROCARBONS: A developmental inhalation study was conducted in laboratory mice. Increased implantation losses, reduced fetal weights, delayed ossification and an increased incidence of cleft palate were observed at the highest exposure level (1,500 ppm). This exposure level was extremely toxic to pregnant female mice (44% mortality). Reduced fetal body weights were also observed at 500 ppm. A multi-generation reproduction inhalation study was conducted in laboratory rats. Reductions in pup weights, pup weight gain, litter size, and pup survival were observed at 1,500 ppm, an exposure level at which significant maternal toxicity was observed. Reduced pup weight gain was also observed at 500 ppm.

NAPHTHALENE: Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from overexposure to naphthalene. Persons with Glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have been reported in persons overexposed to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect. Hemolytic anemia has been observed in laboratory animals exposed to

naphthalene. Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of naphthalene. Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) in vitro. Naphthalene has been classified as Possibly Carcinogenic to Humans (2B) by IARC, based on findings from studies in laboratory animals.

N-HEXANE: Long-term or repeated exposure to n-hexane can cause peripheral nerve damage. Initial symptoms are numbness of the fingers and toes. Also, motor weakness can occur in the digits, but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. Testicular atrophy and partial to full loss of the germ cell line were observed in sub-chronic high-dose inhalation studies of laboratory rodents. These effects appeared irreversible. Rodent reproduction studies have shown evidence of reduced fetal weight but no frank malformations.

PENTANES: Studies of pentane isomers in laboratory animals indicate exposure to extremely high levels (roughly 10 vol.%) may induce cardiac arrhythmias (irregular heartbeats) which may be serious or fatal.

CARBON MONOXIDE: is a chemical asphyxiant with no warning properties (such as odor). At 400-500 ppm for 1 hour headache and dyspnea may occur. If activity is increased, symptoms of overexposure may include nausea, irritability, increased respiration, tinnitus, sweating, chest pain, confusion, impaired judgement, dizziness, weakness, drowsiness, ataxia, irregular heart beat, cyanosis and pallor. Levels in excess of 1000 ppm can result in collapse, loss of conciousness, respiratory failure and death. Extremely high concentrations (12,800 ppm) can cause immediate unconsciousness and death in 1-3 minutes. Repeated anoxia can lead to central nervous system damage and peripheral neuropathy, with loss of sensation in the fingers, amnesia, and mental deterioration and possible congestive heart failure. Damage may also occur to the fetus, lung, liver, kidney, spleen, cardiovascular system and other organs.

COMBUSTION ENGINE EXHAUST: Chronic inhalation studies of gasoline engine exhaust in mice, rats and hamsters did not produce any carcinogenic effects. Condensates/extracts of gasoline engine exhaust produced an increase in tumors compared to controls when testing by skin painting, subcutaneous injection, intratracheal instillation or implantation into the lungs.

Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffers Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline.

TARGET ORGANS:

central nervous system, brain, peripheral nervous system, auditory system, respiratory system, mucous membranes, lungs, skin, eyes, heart, blood, blood-forming organs, bone marrow, reproductive organs, testes, immune system, lymphatics, thymus, thyroid, pituitary gland,

12. ECOTOXICOLOGICAL INFORMATION

Mobility:

May partition into air, soil and water.

Ecotoxicity:

Toxic to aquatic organisms.

Bioaccummulation:

Not expected to bioaccumulate in aquatic organisms.

Persistance/Biodegradation:

Readily biodegradable in the environment.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This product could also contain benzene at >0.5 ppm and could exhibit the characteristics of "toxicity" as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name:	Gasoline
UN/Identification No:	UN 1203
Hazard Class:	3
Packing group:	II
DOT reportable quantity (lbs):	Not applicable.

Proper shipping name:	Gasoline
UN/Identification No:	UN 1203
Hazard Class:	3
Packing group:	II

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Saturated Hydrocarbons	NA
Aromatic Hydrocarbons	NA
Unsaturated Hydrocarbons	NA
Toluene	NA
Xylene	NA
1,2,4-Trimethylbenzene	NA
Benzene	NA
Hexane	NA
Ethyl Benzene	NA
Napthalene	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Saturated Hydrocarbons	NA
Aromatic Hydrocarbons	NA
Unsaturated Hydrocarbons	NA
Toluene	= 454 kg final RQ
Xylene	= 100 lb final RQ = 45.4 kg final RQ
1,2,4-Trimethylbenzene	NA
Benzene	= 10 lb final RQ = 4.54 kg final RQ
Hexane	= 2270 kg final RQ = 5000 lb final RQ
Ethyl Benzene	= 1000 lb final RQ = 454 kg final RQ
Napthalene	= 100 lb final RQ = 45.4 kg final RQ

SARA Section 311/312 The following EPA hazard categories apply to this product:

Acute Health Hazard
Chronic Health Hazard
Fire Hazard

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Saturated Hydrocarbons	None
Aromatic Hydrocarbons	None
Unsaturated Hydrocarbons	None

Name	CERCLA/SARA 313 Emission reporting:
Toluene	= 1.0 % de minimis concentration
Xylene	= 1.0 % de minimis concentration
1,2,4-Trimethylbenzene	= 1.0 % de minimis concentration
Benzene	= 0.1 % de minimis concentration
Hexane	= 1.0 % de minimis concentration
Ethyl Benzene	= 0.1 % de minimis concentration
Napthalene	= 0.1 % de minimis concentration

State and Community Right-To-Know Regulations:
The following component(s) of this material are identified on the regulatory lists below:

Saturated Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Aromatic Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Unsaturated Hydrocarbons

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed

Saturated Hydrocarbons

New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Toluene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	developmental toxicity, initial date 1/1/91
New Jersey Right-To-Know:	sn 1866
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic (skin); Flammable (skin)
Michigan critical materials register list:	= 100 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree; teratogen
New Jersey - Environmental Hazardous Substances List:	SN 1866 TPQ 500 lb
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb RQ land/water = 1000 lb RQ air

Xylene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 2014
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic (skin); Flammable (skin)
Michigan critical materials register list:	= 100 lb Annual usage threshold all isomers
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree

Saturated Hydrocarbons	
New Jersey - Environmental Hazardous Substances List:	SN 2014 TPQ 500 lb
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb RQ land/water = 1000 lb RQ air
1,2,4-Trimethylbenzene	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 2716
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	SN 2716 TPQ 500 lb
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Benzene	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	carcinogen, initial date 2/27/87 developmental toxicity, initial date 12/26/97 male reproductive toxicity, initial date 12/26/97
New Jersey Right-To-Know:	sn 0197
Pennsylvania Right-To-Know:	Environmental hazard; Special hazardous substance
Massachusetts Right-To Know:	Carcinogen; Extraordinarily hazardous
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic (skin); Flammable (skin); Carcinogen (skin)
Michigan critical materials register list:	= 100 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances:	carcinogen; extraordinarily hazardous
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Present
New Jersey - Special Hazardous Substances:	carcinogen; flammable - third degree; mutagen; teratogen
New Jersey - Environmental Hazardous Substances List:	SN 0197 TPQ 500 lb
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb RQ land/water = 10 lb RQ air
Hexane	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1340
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Present

Saturated Hydrocarbons

Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 1340 TPQ 500 lb
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb RQ air = 1 lb RQ land/water

Ethyl Benzene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	carcinogen, initial date 6/11/04
New Jersey Right-To-Know:	sn 0851
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	carcinogen; flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 0851 TPQ 500 lb
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb RQ land/water = 1000 lb RQ air

Napthalene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	carcinogen, initial date 4/19/02
New Jersey Right-To-Know:	sn 1322
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	carcinogen

Saturated Hydrocarbons

New Jersey - Environmental Hazardous Substances List:	SN 1322 TPQ 500 lb
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb RQ land/water = 100 lb RQ air

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Toluene	B2, D2A, D2B	1 %
Xylene	B2, D2A, D2B	
1,2,4-Trimethylbenzene	B3	0.1 %
Benzene	B2, D2A, D2B	0.1 %
Hexane	B2, D2A	1 %
Ethyl Benzene	B2, D2A, D2B	0.1 %
Napthalene	B4, D2A	1 %

NOTE: Not Applicable.

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Mark S. Swanson, Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Speedway LLC does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. Speedway assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet

MATERIAL SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

LUBRIPLATE® Lubricants Co.
129 Lockwood St.
Newark, NJ 07105

Emergency Telephone Number:
1-800-255-3924-CHEM-TEL (24 hour)
Telephone Number for information:
1-973-589-9150

SUBSTANCE: LUBRIPLATE Low Temp

MSDS No. - 0892150172001

TRADE NAMES/SYNONYMS:

PRODUCT USE: Petroleum lubricating grease

CREATION DATE: 06/14/2007
REVISION DATE: 12/15/2011

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT: Heavy and light hydrotreated naphthenic distillates
CAS NUMBER: 64742-52-5/64742-53-6
EC NUMBER (EINECS): 265-155-0/265-156-6
PERCENTAGE: 80-85

COMPONENT: 12 hydroxy stearic acid
CAS NUMBER: 106-14-9
EC NUMBER (EINECS): 203-366-1
PERCENTAGE: 5-10

COMPONENT: Zinc oxide
CAS NUMBER: 1314-13-2
EC NUMBER (EINECS): 215-222-5
PERCENTAGE: 5-10

COMPONENT: Chlorinated alkanes
CAS NUMBER: 63449-39-8/61788-76-9
EC NUMBER (EINECS): 264-150-0/263-004-3
PERCENTAGE: 0-2

COMPONENT: Oleic acid
CAS NUMBER: 112-80-1
EC NUMBER (EINECS): 204-007-1
PERCENTAGE: 0-2

COMPONENT: Calcium hydroxide
CAS NUMBER: 1305-62-0

EC NUMBER (EINECS): 215-137-3
PERCENTAGE: 0-2

COMPONENT: Alkylated diphenylamine
CAS NUMBER: 184378-08-3
EC NUMBER (EINECS): NA
PERCENTAGE: 0-2

NOTE: The IP 346 value of the mineral oil is less than 3%

SECTION 3 HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:
INHALATION:
SHORT TERM EXPOSURE: Irritation
LONG TERM EXPOSURE: Lung damage
SKIN CONTACT:
SHORT TERM EXPOSURE: Irritation
LONG TERM EXPOSURE: Irritation, skin disorders
EYE CONTACT:
SHORT TERM EXPOSURE: Irritation
LONG TERM EXPOSURE: No information available
INGESTION:
SHORT TERM EXPOSURE: Diarrhea, difficulty breathing
LONG TERM EXPOSURE: no information on significant adverse effects

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS):
Health – 1
Flammability – 1
Reactivity – 0

Not a Controlled Product under (WHMIS) – Canada **Special Protection: See Section 8**

SECTION 4 FIRST AID MEASURES

INHALATION: Vapor pressure is very low and inhalation at room temperature is not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician.

SKIN CONTACT: Remove any contaminated clothing and wash with soap and warm water. If injected by high pressure under skin, regardless of the appearance or its size, contact a physician IMMEDIATELY. Delay may cause loss of affected part of the body.

EYE CONTACT: Flush with clear water for 15 minutes or until irritation subsides. If irritation persists, consult a physician.

INGESTION: If ingested, call a physician immediately. Do not induce vomiting.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Slight fire hazard

EXTINGUISHING MEDIA: Foam, Dry Chemical, Carbon Dioxide or Water Spray (Fog)

SPECIAL FIRE FIGHTING PROCEDURES: Cool exposed containers with water. Use air-supplied breathing equipment for enclosed or confined spaces.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Do not store or mix with strong oxidants. Empty containers retain residue. Do not cut, drill, grind, or weld, as they may explode.

SECTION 6 ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE: Scrape up grease, wash remainder with suitable petroleum solvent or add absorbent. Keep petroleum products out of sewers and water courses. Advise authorities if product has entered or may enter sewers and water courses.

SECTION 7 HANDLING AND STORAGE

STORAGE: Keep containers closed when not in use. Do not handle of store near heat, sparks, flame, or strong oxidants.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS:
OIL MIST IN AIR (Not Encountered in Normal Usage):
5 mg/m^3 UK OES TWA
10mg/m^3 UK OES STEL

VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant (nitrile) gloves.

RESPIRATOR: Consider the need for appropriate protective equipment, such as self-contained breathing apparatus, adequate masks and filters.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: semi-solid
APPEARANCE: smooth
COLOUR: off-white
PHYSICAL FORM: grease
ODOR: mineral oil odor
BOILING POINT: >288°C
FREEZING POINT: Not available
FLASH POINT: 166°C (COC)
LOWER FLAMMABLE LIMIT: 0.9% by volume
UPPER FLAMMABLE LIMIT: 7.0% by volume
AUTO IGNITION: not available
VAPOUR PRESSURE: <0.01
VAPOR DENSITY (air=1): >5
SPECIFIC GRAVITY (water=1): 0.91
DENSITY: not available
WATER SOLUBILITY: negligible
pH: not available
VOLATILITY: not available
ODOR THRESHOLD: not available
EVAPORATION RATE (Butyl acetate = 1): <0.01
VISCOSITY: not available
COEFFICIENT OF WATER/OIL DISTRIBUTION: not available

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressures

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

INCOMPATIBLES: Oxidising materials, chlorine

HAZARDOUS DECOMPOSITION:
Thermal decomposition products or combustion: oxides of carbon, oxides of sulphur

POLYMERISATION: Will not polymerise.

SECTION 11 TOXICOLOGICAL INFORMATION

Heavy and light hydrotreated naphthenic distillates:
TOXICITY DATA:
Greater than 5,000 mg/kg LD50 oral-rat

12 hydroxy stearic acid:
TOXICITY DATA:
Greater than 5 g/kg LD50 oral-rat

Zinc oxide:
TOXICITY DATA:
No data available

Chlorinated alkanes:
TOXICITY DATA:
Greater than 4,000 mg/kg oral-rat LD50

Oleic acid:
TOXICITY DATA:
No data available

Calcium hydroxide:
TOXICITY DATA:
No data available

Alkylated diphenylamine:
TOXICITY DATA:
Greater than 2,500 mg/kg oral-rat LD50

SECTION 12 ECOLOGICAL INFORMATION

Not available

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations

SECTION 14 TRANSPORT INFORMATION

LAND TRANSPORT ADR: No classification assigned.

LAND TRANSPORT RID: No classification assigned.

AIR TRANSPORT IATA: No classification assigned.

AIR TRANSPORT ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

SECTION 15 REGULATORY INFORMATION

EUROPEAN REGULATIONS:
EC CLASSIFICATION (CALCULATED): N
Risk Phrases: R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SARA/TITLE III, Section 313 Status – Zinc Compounds <5%

SECTION 16 OTHER INFORMATION

The above information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of LUBRIPLATE Lubricants Company. The data on these sheets relates only to the specific material designated herein. LUBRIPLATE Lubricants Company assumes no legal responsibility for use or reliance upon this data.

Date: 12 January 2006 Supercedes: 13 December 2005

MATERIAL SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION AND COMPANY IDENTIFICATION:

Product Name:	***NAPA WATERLESS HAND CLEANER with SKIN CONDITIONERS Part #5000 & 5005***
Company Name & Address:	BALKAMP, INC. D.B.A. ARC INDIANAPOLIS, IN 46241
Emergency Phone:	**(800) 321-9647 Hours: M-F 8:30-5:00 PM**
Non-Emergency Phone:	(330) 255-6000
MSDS Request Phone:	(330) 255-6000

2. INFORMATION ON INGREDIENTS:

HAZARDOUS INGREDIENTS	CAS NUMBER	OSHA PEL	ACGIH TLV	% RANGE
None				

Other ingredient(s) with notification requirements:	CAS NUMBER	List
Propylene Glycol	57-55-6	CN 1; PA 1

3. HAZARDS IDENTIFICATION:

EMERGENCY OVERVIEW

When used according to instructions, the product applicable to this MSDS is safe and presents no immediate or long-term health hazard. However, abnormal entry routes, such as gross ingestion, may require immediate medical attention.

Potential Health Effects:

HMIS: Health 1 Flammability 0 Reactivity 0 Personal Protection None

Eye Contact:	May cause eye irritation.
Skin Contact:	No irritation or reaction expected.
Inhalation:	Not applicable.
Ingestion:	May cause upset stomach, nausea (Abnormal entry route).
Carcinogenicity:	Not listed as a carcinogen by NTP, IARC, OSHA or ACGIH.

4. FIRST AID MEASURES:

Eye Contact:	Do not rub eyes. Flush eyes thoroughly with water for 15 minutes. If condition worsens or irritation persists, contact physician.
Skin Contact:	Not applicable.
Inhalation:	Not applicable.
Ingestion:	Do not induce vomiting. Contact a physician or Poison Control Center.

5. FIRE FIGHTING MEASURES:

NFPA: Health 0 Fire 0 Reactivity 0

Flashpoint °F/°C (PMCC method):	>212 F/100 C									
Unusual Fire and Explosion Hazards:	None known.									
Special Fire Fighting Procedures:	None known.									
Extinguishing Media:	X	Water	X	Alcohol	X	CO_2	X	Dry Chemical		Other
		Fog		Foam						

6. ACCIDENTAL RELEASE MEASURES:

No special requirements. Water clean up and rinse. CAUTION – WILL CAUSE SLIPPERY SURFACES.

7. HANDLING AND STORAGE:

Store at normal room temperature away from reach of small children. Keep containers sealed. Use older containers first. Avoid freezing conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Eye Protection:	None required under normal conditions.
Skin Protection:	None required under normal conditions.
Respiratory Protection:	None required under normal conditions.
Ventilation:	None required under normal conditions.
Protective Equipment or Clothing:	None required under normal conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance and Odor	White opaque gel, pleasant fragrance
pH (undiluted):	9 typical
VOC , %:	0

10. STABILITY AND REACTIVITY:

Stable/Non reactive product.

11. TOXICOLOGICAL INFORMATION:

No acute or chronic toxic effects expected when used according to directions.

12. ECOLOGICAL CONSIDERATIONS:

No ecological or special considerations when used according to directions. Not considered environmentally harmful from normal dilution, expected usage and typical drainage to sewers, septic systems and treatment plants.

13. DISPOSAL CONSIDERATIONS:

No special considerations when disposed according to local, state and Federal regulations.

14. TRANSPORT INFORMATION:

Not classified as a hazardous material.

15. REGULATORY AND OTHER INFORMATION:

Complies with current FDA regulations for cosmetic and/or over-the-counter drug products.

Notice: The information herein is based on data considered to be accurate as of the date of preparation of this material safety data sheet. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the foregoing data and safety information. The user assumes all liability for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

MATERIAL SAFETY DATA SHEET
SECTION1: Product & Company Identification
Product Trade Name: Febi 02615
Application of the substance: Hydraulic Oil
Product number(s) 0019892103
manufactured By: Ferdinand Bilstein GmbH + Co. KG
Wilhelmstr. 46
D-58256 Ennepetal
Germany
++49-2333-911-0
Fax +49-2333-911-444
Emergency information: ++49-2333-911-0

Section 2: Composition/Data on components:
Chemical characterization
Description: Mixture containing severly refined base oils and additives
Dangerous Components: Void

Section 3: Hazards Identification:
Hazard designation: By handling of mineral oil products and chemical products no particular hazard is known when normal precautions and personal protective equipment are kept.
Intofmation pertaining to particular dangers for and environment: This product is water polluting.
Classification system:
This classification is in line with current EC lists. It is expanded, however by information from technical literature and by information furnished by supplier companies.
The classification results from the Conventional Method of 88/379 EU concerning specific data of compounds.

Section 4: First Aid Measures
First Aid:
EYE: Flush with copious amount of water for at least 15 minutes
If irritation persists, seek immediate medical attention
SKIN: Remove contaminated clothing and wash affected areas with soap or a non liquid skin cleanser. If irritation persists seek medical attention.
Launder contaminated clothing before reuse.
INGESTION: DO NOT INDUCE VOMITING. Call a physician or poison control center immediately for assistance and instructions. If vomiting occurs spontaneously keep victims head lowered (forward) to reduce the risk of aspiration.
INHALATION: Remove victim to fresh air at once. If breathing is difficult administer supplemental oxygen. If breathing has stopped administer

artificial respiration. Seek immediate medical attention. Provide supportive treatment, keeping victim warm and quiet.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None expected, When used as intended

Section 5: Fire Fighting Measures
Suitable extinguishing measures:
CO2, extingquishing powder or water spray, foam
For safety reasons unsuitable extingquishing agents:
Water with full jet.
Special hazards cause by the material, its prodcuts of combustion or resulting gases:
Flammable vapor/air mixtures. NOx, SO2, H2S
Protective Equipment:

Wear self-contained respiatory protective device. Wear fully protective suit.
Additional information:
Collect contaminated fire fighting water separately. It must not enter the sewer system. Cool endagered receptacles with water spray.

Section 6: Accidental Release Measures
Eliminate all possible sources of ignition. Stop leak or spill if safely possible. Secure spill area and deny entry to all unprotected individuals Keep area well ventilated. Use only non-sparking tools for liquid recovery and spill clean up. Ground all containers used top recover free liquid. If spill is small, cover with appropriate inert absorbent and place into closed containers for proper disposal. If spill is large, cover all drains and dike well ahead of the spill area to prevent runoff into drains, sewers and all waterways.

Section 7: Handling & Storage Information
Prevent formation of aerosols.
Wash hands thoroughly after using this product and before eating, drinking or smoking. Use and store in a cool, dry, well-ventilated area away from excessive heat, sparks, open flames and other possible sources of ignition. Do not store in unmarked or open containers. Protect containers from damage or tipping.
Storage: Store only in the original receptacle.

Section 8: Exposure Controls/Personal Protection
This product itself does not contain any relevant quanities of materials with critical calues that have to be monitored at the workplace.
Additional Information: The lists that were valid during the compilation were used as basis.
General protective and hygienic measures: The usual precautionary measures

should be ashered to in handling the chemicals and the mineral oil products. Avoid close or long term contact with the skin. Use skin protection cream for preventive skin protection. Do not carry cleaning cloths impregnated with the product in trouser pockets.
Breathing equipment: Not required
Protection of hands: Protective gloves and protective skin cream.
Eye protection: Safety glasses recommended during refilling.
Body protection: Protective work clothing

Section 9: Physical & Chemical Properties
Form: Fluid
Color: Yellow
Odor: Characteristic
Melting Point: ND
Boiling Point: ND
Flash Point: 150 degrees Celcius
Auto Igniting: Product is not self igniting
Explosion Limits (Lower): NA
Explosion Limits (Upper): NA
Density: 0.90 g/c2/s at 15 degrees Celcius
Solubility: Not miscible or difficult to mix
Viscosity: 15 mm2/s at 40 degrees C
VOC Content: ND

Section 10: Stability and reactivity
Stability: Stable under normal conditions
Thermal decomposition/conditions to be avoided: No decomposition if used according to secifications

Dangerous reactions: No dangerous reactions known
Danerous products of composition: No dangerous decomposition products known

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Section 11: Toxicological Information
Acute Toxicity: ND
Primary irritant effect:
On Skin: No irritant effect known.
On the eyes: No irritant effect know.
Sensitization: No sensitizing effect known
Additional toxicological information: The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Section 12: Ecological Information

Behaviour in environmental systems: ND
Mobility and bioaccumulation potential: No data available
Ecotoxical effects: ND
Behaviour in sewage processing plants: The product swims on the water surface.
General notes: German Water Hazard Class 1: Slightly hazardous for water. Do not allow to reach ground water, water bodies or sewage system.

Section 13: Disposal Considerations
Waste Disposal: Dispose of in accordance with all federal, state, and local regulations. Must not be disposed of together with household garbage. Do not allow product to reach sewer system.
Uncleaned packages: Non contaminated packagings can be reused. Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

Section 14: Transportation Information
The basic description (proper shipping name, hazard class & division, ID numer, packaging group) is shown for each mode of transportation, additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR
49 CFR (grnd): Not Regulated By This Mode
IATA (air): Not Regulated By this Mode
IMDG (ocn): Not Regulated By This Mode
TDGR (Cdn grnd): Not regulated By This Mode

Section 15: Regulatory Information
-Designation according to EU guidelings:
Observe the normal safety regualtions when handling chemicals or mineral oil products. The product is not subject to identification regulations under EC directives until 2000-32-EC(26.ATP) and the Ordinance on Hazardous Materials; the concentrations of the dangerous compounds, which are possibly specified under point 2, are not above the calue forclassification. Local regulations must be kept.
German Water Hazard Class: Water hazard class 1: slightly hazardous for water

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Section 16: Other Information
Prepared by Altrom America Corp. 1-16-07

NA: Not Available
ND: Not Determined

Disclaimer: This Material Safety Data Sheet is offered pursuant to OSHAs Hazard communication Standard, 29 CFR 1910.1200. Other government

regulations must be reviewed for applicability to this product. To the best of Altrom's knowledge, the information contained here is reliable and acurate as of this date. However, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either expressed or implied, are provided. The information herein related only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time.

NAPA® PREM PERF SAE 10W-30 MOTOR OIL
NP75130

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Ashland P.O. Box 2219 Columbus, OH 43216	Regulatory Information Number Telephone Emergency telephone number	1-800-325-3751 614-790-3333 1-800-ASHLAND (1-800-274-5263)
Product name	NAPA® PREM PERF SAE 10W-30 MOTOR OIL	
Product code	NP75130	
Product Use Description	No data	

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid

CAUTION! PROLONGED OR REPEATED CONTACT MAY DRY THE SKIN AND CAUSE IRRITATION AND BURNS.

Potential Health Effects

Exposure routes

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact

May cause mild eye irritation. Symptoms include stinging, tearing, and redness.

Skin contact

May cause mild skin irritation. Symptoms may include redness and burning of skin. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, skin burns, and other skin damage.

Ingestion

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation

It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring). Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:, Skin, lung (for example, asthma-like conditions)

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:, acne, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways)

Target Organs

No data

Carcinogenicity

This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA). Used motor oil has been shown to cause skin cancer in laboratory animals continually exposed by repeated applications. Avoid prolonged or repeated skin contact.

Reproductive hazard

There are no data available for assessing risk to the fetus from maternal exposure to this material.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	CAS-No.	Concentration
HEAVY PARAFFINIC DISTILLATE	64742-54-7	>=60-<70%
HEAVY PARAFFINIC DISTILLATE	64742-54-7	>=30-<40%

4. FIRST AID MEASURES

Eyes

If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek medical attention.

Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Notes to physician

Hazards: Acute aspiration of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Repeated aspiration of small quantities of mineral oil can produce chronic inflammation of the lungs (i.e. lipoid pneumonia) that may progress to pulmonary fibrosis. Symptoms are often subtle and radiological changes appear worse than clinical abnormalities. Occasionally, persistent cough, irritation of the upper respiratory tract, shortness of breath with exertion, fever, and bloody sputum occur. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

Treatment: No information available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, Carbon dioxide (CO2), Water spray

Hazardous combustion products

carbon dioxide and carbon monoxide, Hydrocarbons

Precautions for fire-fighting

Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). DO NOT direct a solid stream of water or foam into hot, burning pools of liquid since this may cause frothing and increase fire intensity. Frothing can be violent and possibly endanger any firefighter standing too close to the burning liquid. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class IIIB

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions

Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Other information

Comply with all applicable federal, state, and local regulations.

7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Storage

Store in a cool, dry, ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

HYDROTREATED PARAFFINIC DISTILLATE, DEWAXED

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Eye protection

Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection

Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.
Wear resistant gloves (consult your safety equipment supplier).

Respiratory protection

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Form	no data available
Colour	no data available
Odour	no data available
Boiling point/boiling range	no data available
Melting point/range	no data available
Sublimation point	no data available
pH	no data available
Flash point	(>)390 °F / 199 °C Cleveland open cup
Ignition temperature	no data available
Evaporation rate	no data available
Lower explosion limit/Upper explosion limit	no data available
Particle size	no data available
Vapour pressure	0.013 hPa @ 70.00 °F / 21.11 °C Calculated Vapor Pressure
Relative vapour density	no data available
Density	0.869 g/cm3 @ 60.01 °F / 15.56 °C 7.34 lb/gal @ 60.00 °F / 15.56 °C
Bulk density	No data
Water solubility	no data available
Solubility	no data available
Partition coefficient: n-octanol/water	no data available
log Pow	no data available
Autoignition temperature	no data available
Viscosity, dynamic	no data available
Viscosity, kinematic	10.5 mm2/s
Solids in Solution	no data available
Decomposition temperature	no data available
Burning number	no data available
Dust explosion constant	no data available
Minimum ignition energy	no data available

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid
None known.

Incompatible products
Strong oxidizing agents

Hazardous decomposition products
carbon dioxide and carbon monoxide, Hydrocarbons

Hazardous reactions
Product will not undergo hazardous polymerization.

Thermal decomposition
No data

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

HEAVY PARAFFINIC DISTILLATE	:	LD 50 Rat: > 15 g/kg
HEAVY PARAFFINIC DISTILLATE	:	LD 50 Rat: > 15 g/kg

Acute inhalation toxicity

HEAVY PARAFFINIC DISTILLATE	:	no data available
HEAVY PARAFFINIC DISTILLATE	:	no data available

Acute dermal toxicity

HEAVY PARAFFINIC DISTILLATE	:	LD 50 Rabbit: > 5 g/kg
HEAVY PARAFFINIC DISTILLATE	:	LD 50 Rabbit: > 5 g/kg

12. ECOLOGICAL INFORMATION

Biodegradability

HEAVY PARAFFINIC DISTILLATE	:	no data available

HEAVY PARAFFINIC DISTILLATE : no data available

Bioaccumulation
HEAVY PARAFFINIC DISTILLATE : no data available

HEAVY PARAFFINIC DISTILLATE : no data available

Ecotoxicity effects

Toxicity to fish
HEAVY PARAFFINIC DISTILLATE : no data available

HEAVY PARAFFINIC DISTILLATE : no data available

Toxicity to daphnia and other aquatic invertebrates.
HEAVY PARAFFINIC DISTILLATE : no data available

HEAVY PARAFFINIC DISTILLATE : no data available

Toxicity to algae
HEAVY PARAFFINIC DISTILLATE : no data available

HEAVY PARAFFINIC DISTILLATE : no data available

Toxicity to bacteria
HEAVY PARAFFINIC DISTILLATE : no data available

HEAVY PARAFFINIC DISTILLATE : no data available

Biochemical Oxygen Demand (BOD)
HEAVY PARAFFINIC DISTILLATE : no data available

HEAVY PARAFFINIC DISTILLATE : no data available

Chemical Oxygen Demand (COD)

HEAVY PARAFFINIC DISTILLATE	:	no data available
HEAVY PARAFFINIC DISTILLATE	:	no data available

Additional ecological information

HEAVY PARAFFINIC DISTILLATE	:	no data available
HEAVY PARAFFINIC DISTILLATE	:	no data available

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

U.S. DOT - ROAD

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

California Prop. 65

Proposition 65 warnings are not required for this product based on the results of a risk assessment.	

SARA Hazard Classification
No SARA Hazards

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

New Jersey RTK Label Information
HEAVY PARAFFINIC DISTILLATE 64742-54-7

HEAVY PARAFFINIC DISTILLATE HYDROTREATED PARAFFINIC DISTILLATE, DEWAXED POLYOLEFIN AMIDE ALKENEAMINE LUBRICANT ADDITIVE	64742-54-7

Pennsylvania RTK Label Information

HEAVY PARAFFINIC DISTILLATE	64742-54-7
HEAVY PARAFFINIC DISTILLATE HYDROTREATED PARAFFINIC DISTILLATE, DEWAXED	64742-54-7

Notification status

US. Toxic Substances Control Act	y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)
Australia. Industrial Chemical (Notification and Assessment) Act	y (positive listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	y (positive listing)
Japan. Kashin-Hou Law List	e (special case)
Korea. Toxic Chemical Control Law (TCCL) List	y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
China. Inventory of Existing Chemical Substances	q (quantity restricted)

	HMIS	NFPA
Health	1	1
Flammability	1	1
Physical hazards	--	
Instability		0
Specific Hazard	--	--

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the

information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

AIR LIQUIDE

MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

1. PRODUCT AND COMPANY INFORMATION

CHEMICAL NAME; CLASS: OXYGEN

SYNONYMS: Oxygen USP, Aviator's Breathing Oxygen (ABO)
CHEMICAL FAMILY NAME: Oxidizing Gas
FORMULA: O_2

NOTE: Oxygen may be supplied by pipeline at pressures up to 600 PSIG.

Document Number: 10074	
PRODUCT USE:	Medical, welding and general analytical or synthetic chemical uses.
MANUFACTURED/SUPPLIED FOR:	AIR LIQUIDE
ADDRESS:	2700 Post Oak Drive Houston, TX 77056-8229
EMERGENCY PHONE:	CHEMTREC: 1-800-424-9300
BUSINESS PHONE:	General MSDS Information 1-713/896-2896

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Oxygen is a colorless, odorless gas. The main health hazard associated with releases of this gas is its powerful oxidizing power. In high oxygen content atmospheres, common combustible materials can become highly flammable. Emergency responders must practice extreme caution when approaching oxygen releases because of the extreme fire potential.

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE: The most significant route of over-exposure for this product is by inhalation.

INHALATION: High concentrations (80% or more) of this gas can cause an oxygen-rich environment. Individuals breathing such an atmosphere for durations of 17-24 hours may experience symptoms which include nasal stuffiness, nausea, dizziness, bronchial irritation (cough), sore throat, hypothermia, increased depth of respiration, bradycardia, pulmonary discomfort (including chest pain), peripheral vasoconstriction, amblyopia (loss of vision). Inhalation of pure oxygen at atmospheric pressure or less can cause pulmonary irritation and edema after 24 hours.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Over-exposure to Oxygen may cause the following health effects:

ACUTE: Individuals breathing oxygen-enriched atmospheres may experience nasal stuffiness, nausea, dizziness, coughing, sore throat, hypothermia, disturbed breathing, chest pain, and loss of vision.

CHRONIC: There are currently no known adverse health effects associated with chronic exposure to this gas.

TARGET ORGANS: Respiratory system.

3. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			OTHER
			TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	
Oxygen	7782-44-7	99.5%	There are no specific exposure limits for Oxygen. Oxygen levels should be maintained above 19.5% and below 23.5%					
Maximum Impurities		<0.5%	None of the trace impurities in this product contribute significantly to the hazards associated with the product. All hazard information pertinent to this product has been provided in this Material Safety Data Sheet, per the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and State equivalents standards.					

This material is classified as hazardous under OSHA regulations in the United States and the WHMIS in Canada.

NE = Not Established C = Ceiling Limit See Section 16 for Definitions of Terms Used.

NOTE: all WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-2004 format.

4. FIRST-AID MEASURES

Remove victim(s) to fresh air, as quickly as possible, or if in elevated pressures, reduce oxygen pressure to 1 atmosphere. Physician should be advised of victim's exposure to a high oxygen concentration. Trained personnel should administer medical aid such as cardio-pulmonary resuscitation, if necessary. Supplemental oxygen is not normally appropriate. Victims tend to recover rapidly, when removed from the hypoxic exposure.

Take copy of label and MSDS to physician or other health professional with victim(s). Medical care providers should refer to Section 11 (Toxicology Information) of this MSDS for additional information.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): Not applicable.
Upper (UEL): Not applicable.

FIRE EXTINGUISHING MATERIALS: Non-flammable gas. Use extinguishing media appropriate for surrounding fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Oxygen does not burn; however, cylinders, when involved in fire, may rupture or burst in the heat of the fire. Oxygen will support and accelerate combustion. Common combustible materials will burn more readily in elevated oxygen environments, and some materials which are non-combustible in air will burn in an oxygen-enriched atmosphere. Direct water onto cylinders to keep cool. Shut-off the flow of oxygen or move cylinders from fire area if it can be done safely. Rescue personnel should be aware of the extreme fire hazards associated with oxygen-enriched atmospheres.

Water Spray: YES Carbon Dioxide: YES Foam: YES
Halon: YES Dry Chemical: YES Other: Any "ABC" Class.

Explosion Sensitivity to Mechanical Impact: Not Sensitive.
Explosion Sensitivity to Static Discharge: Not Sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Other information for pre-planning can be found in the North American Emergency Response Guidebook.

6. ACCIDENTAL RELEASE MEASURES

LEAK RESPONSE: Evacuate immediate area. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a leak, clear the affected area, protect people, eliminate sources of ignition, and respond with trained personnel. Adequate fire protection must be provided.

Minimum Personal Protective Equipment should be **Level B: fire protective clothing, mechanically-resistant, fire protective gloves and Self-Contained Breathing Apparatus.** In general, **DO NOT ENTER AN AREA IF THE OXYGEN CONTENT EXCEEDS 23.5%. USE VENTILATION TO REDUCE THE OXYGEN LEVELS.** Attempt to

close the main source valve prior to entering the area. If this does not stop the release (or if it is not possible to reach the valve), allow the gas to release in-place or remove it to a safe area and allow the gas to be released there. Remove sources of heat, ignition, and, if possible, separate combustibles from the leak. Monitor the surrounding area for oxygen levels.

If leaking incidentally from the cylinder or its valve, contact your supplier.

7. HANDLING AND STORAGE

STORAGE AND HANDLING PRACTICES: Cylinders should be stored upright and be firmly secured to prevent falling or being knocked-over. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting. Cylinders should be stored in dry, well-ventilated areas away from sources of heat, ignition and direct sunlight. Keep storage area clear of materials which can burn. Do not allow area where cylinders are stored to exceed 52°C (125°F). Store containers away from heavily trafficked areas and emergency exits. Store away from process and production areas, away from elevators, building and room exits or main aisles leading to exits. Cylinders should be separated from flammable materials by a minimum distance of 20 ft or by a barrier of non-combustible material at least 5 ft high, having a fire resistance rating of at least ½ hour. Protect cylinders against physical damage. Isolate from other non compatible chemicals (refer to Section 10, Stability and Reactivity). Post "No Smoking or Open Flames" signs in storage or use areas.

Consider installation of leak detection and alarm for storage and use areas. Have appropriate extinguishing equipment in the storage area (i.e. sprinkler system, portable fire extinguishers).

SPECIAL PRECAUTIONS FOR USE OF OXYGEN: All gauges, valves, regulators, piping and equipment to be used in oxygen service must be cleaned for oxygen service in accordance with CGA pamphlet G-4.1 Use piping and equipment adequately designed to withstand pressures to be encountered. Oxygen is not to be used as a substitute for compressed air. Never use an oxygen jet for cleaning purposes of any sort, especially clothing, as it increases the likelihood of an engulfing fire. Use a check valve or other protective apparatus in any line or piping from the cylinder to prevent reverse flow. Never tamper with pressure relief valves and cylinders.

Personnel who have been exposed to high concentrations of oxygen should stay in a well-ventilated or open area for 30 minutes before going into a confined space or near an ignition source. Use non-sparking ventilation systems, approved explosion-proof equipment, and appropriate electrical systems. Electrical equipment used in gas-handling operations, or located in storage areas, should be non-sparking or explosion-proof

Keep the smallest amount necessary on-site at any one time. Full and empty cylinders should be segregated. Use a first-in, first-out inventory systems to prevent full containers from being stored for long periods of time.

SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS: Compressed gases can present significant safety hazards. The following rules are applicable to work situations in which cylinders are being used.

Before Use: Move cylinders with a suitable hand-truck. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap (where provided) in-place until cylinder is ready for use.

During Use: Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinder by any means to increase the discharge rate of the product from the cylinder. Do not use oils or grease on gas-handling fittings or equipment. Leak-check system with leak detection solution, never with flame. Immediately contact the supplier if there are any difficulties associated with operating cylinder valve. Never insert an object (e.g wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Never strike an arc, on a compressed gas cylinder or make a cylinder part of and electric circuit.

After Use: Close main cylinder valve. Valves should be closed tightly. Replace valve protection cap. Mark empty cylinders "EMPTY".

NOTE: Use only DOT or ASME code containers. Close valve after each use and when empty. Cylinders must not be recharged except by or with the consent of owner. For additional information, refer to American National Standards (ANSI) Z49.1 *Safety in Welding and Cutting* published by the American Welding Society, PO Box 351040, Miami, FL 33135; National Fire Protection Association (NFPA) 51. See Section 16, (Other Information) for additional pamphlets developed by the Compressed Gas Association (CGA).

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA: Use the proper CGA connections, DO NOT USE ADAPTERS:

THREADED:	0-3000 psig	CGA 540
	3001-4000 psig	CGA 577
	4001-5500 psig	CGA 701
PIN-INDEXED YOKE:	0-3000 psig	CGA 870 (Medical Use)
ULTRA HIGH INTEGRITY:	0-3000 psig	714

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Purge gas handling equipment with inert gas (i.e. nitrogen) before attempting repairs. Always use product in areas where adequate ventilation is provided.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Local exhaust ventilation is preferred, because it prevents dispersion of this gas into the work place by eliminating it at its source. If appropriate, install automatic monitoring equipment to detect the level of oxygen.

RESPIRATORY PROTECTION: Maintain oxygen levels above 19.5% and below 23.5% in the workplace. Use supplied air respiratory protection if oxygen levels are below 19.5%. DO NOT ENTER AN AREA IF THE OXYGEN CONTENT EXCEEDS 23.5%.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Wear gloves when handling cylinders of this product. Otherwise, wear glove protection appropriate to the specific operation for which this product is used.

BODY PROTECTION: Use body protection appropriate for task. Safety shoes are recommended when handling cylinders.

9. PHYSICAL and CHEMICAL PROPERTIES

GAS DENSITY @ 0°C (32°F) and 1 atm: 0.083 lb/cu ft (1.326 kg/m^3)

BOILING POINT: -183.0°C (-297.4°F)

FREEZING/MELTING POINT @ 10 psig: -218.8°C (-361.8°F)

SPECIFIC GRAVITY (air = 1) @ 70°F (21.1°C): 1.105

pH: Not applicable.

SOLUBILITY IN WATER vol/vol at 0°C and 1 atm: 0.04.91

MOLECULAR WEIGHT: 32.00

EVAPORATION RATE (nBuAc = 1): Not applicable.

EXPANSION RATIO: Not applicable.

ODOR THRESHOLD: Not applicable.

VOLUME (ft^3/lb): 12.1

VAPOR PRESSURE @ 21.1°C (70°F) psig: Not applicable.

COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

APPEARANCE AND COLOR: This product is a colorless, odorless gas at normal temperature and pressure.

HOW TO DETECT THIS SUBSTANCE (warning properties): There are no unusual warning properties associated with a release of this product. An oxygen monitor can be used to detect oxygen levels.

10. STABILITY and REACTIVITY

STABILITY: Normally stable.

DECOMPOSITION PRODUCTS: None.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Oxygen is incompatible with combustible and flammable materials, chlorinated hydrocarbons, hydrazine, reduced boron compounds, ethers, phosphine, phosphorous tribromide, phosphorous trioxide, tetrafluorethylene, and compounds which readily form peroxides. Oxygen may form explosive compounds when exposed to combustible material, or oil, grease, and other hydrocarbon materials.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Avoid contact with incompatible materials. Cylinders exposed to high temperatures or direct flame can rupture or burst.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: Oxygen is the vital element in the atmosphere in which we live and breathe. The atmosphere contains approximately 21% oxygen. Breathing higher concentrations could lead to oxygen toxicity and pneumonia. Breathing lower oxygen concentrations could lead to hypoxia. The following toxicity data are for oxygen:

Human toxicological data and teratogenic data are available for Oxygen; however, the effects have occurred after prolonged exposure to Oxygen (inhalation effects of TCLo after 14 hours) and with exposure of very high concentration of Oxygen at greater than normal atmosphere.

Premature infants exposed to high oxygen concentrations may suffer delayed retinal damage which can progress to retinal detachment and blindness. Retinal damage may also occur in adults exposed to 100% oxygen for extended periods of time (24 to 48 hours).

At two or more atmospheres, central nervous system (CNS) toxicity occurs. Symptoms include nausea, vomiting, dizziness or vertigo, muscle twitching, vision changes, and loss of consciousness and generalized seizures. At three atmospheres, CNS toxicity occurs in less than two hours, and at six atmospheres in only a few minutes.

SUSPECTED CANCER AGENT: Oxygen is not found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, IARC; therefore it is not considered to be, nor suspected to be a cancer-causing agent by these agencies.

IRRITANCY OF PRODUCT: None.

SENSITIZATION OF PRODUCT: Oxygen is not a sensitizer.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of Oxygen on the human reproductive system.

Mutagenicity: Mutation data have been reported for oxygen; these data have been obtained in studies exposing specific animal tissues to relatively high concentrations (80%) of oxygen.
Embryotoxcity: Oxygen is not expected to cause embryotoxic effects in humans. For further information see following paragraph.
Teratogenicity Human teratogenic effects have been reported after inhalation of 12 pph oxygen for 10 minutes during 26-29 weeks of pregnancy; these effects include developmental abnormalities of the fetal cardiovascular system; Exposure of pregnant hamsters to 3-4 atmospheres of 100% oxygen for periods of 2-3 hours produced teratogenic effects in a small, but significant number of fetuses. One quarter of the mother hamsters developed central nervous system symptoms.
Reproductive Toxicity: Oxygen is not expected to cause adverse reproductive effects in humans.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generation lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing respiratory conditions may be aggravated by over-exposure to this product. Persons with chronic obstructive pulmonary disease can retain carbon dioxide abnormally. If oxygen is administered to such persons, raising the oxygen concentration in the blood depresses the breathing rate and raises the retained carbon dioxide levels in the blood to a dangerous level in these persons.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and reduce over-exposure. Symptoms of over-exposure usually are relieved quickly. Immediate sedation and anticonvulsive therapy should be provided, as needed.

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, Biological Exposure Indices (BEIs) are not applicable for this compound.

ADDITIONAL NOTES TO PHYSICIANS: Animal studies suggest that the administration of certain drugs, including phenothiazine drugs and chloroquine, increase the susceptibility to toxicity from oxygen at high pressures. Animal studies also indicate that vitamin "E" deficiency may increase susceptibility to toxicity to oxygen toxicity.

Airway obstruction during high oxygen tension may cause alveolar collapse following absorption of the oxygen. Similarly, occlusion of the Eustachian tubes may cause retraction of the eardrum and obstruction of the paranasal sinuses may produce "vacuum-type" headache. All individuals exposed for long periods to oxygen at high pressure and who exhibit overt oxygen toxicity should have ophthalmologic examinations.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: Oxygen occurs naturally in the atmosphere. The gas will be dissipated rapidly in well-ventilated areas.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: No adverse effect is anticipated to occur to animal or plant-life, except for frost produced in the presence of rapidly expanding gases.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on this product's effects on aquatic life.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. Return cylinders with any residual product to Air Liquide. Do not dispose of locally.

For emergency disposal, secure the cylinder and slowly discharge the gas to the atmosphere in a well-ventilated area or outdoors, away from all sources of ignition.

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME: Oxygen, compressed
HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)
UN IDENTIFICATION NUMBER: UN 1072
PACKING GROUP: Not applicable.
DOT LABEL(S) REQUIRED: Non-Flammable Gas, Oxidizer or Oxygen
NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): 122
MARINE POLLUTANT: Oxygen is not classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B).

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles present serious safety hazards and should be discouraged.

NOTE: Shipment of compressed gas cylinders which have not been filled with the owners consent is a violation of Federal law (49 CFR, Part 173.301 (b).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS. Use the above information for the preparation of Canadian Shipments.

15. REGULATORY INFORMATION

U.S. SARA REPORTING REQUIREMENTS: Oxygen is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act. This product is subject to the reporting requirements of Sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act (40 CFR 370.21).

U.S. SARA THRESHOLD PLANNING QUANTITY: Not applicable.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

CANADIAN DSL INVENTORY STATUS: Oxygen is listed on the DSL Inventory.

U.S. TSCA INVENTORY STATUS: Oxygen is listed on the TSCA Inventory.

OTHER U.S. FEDERAL REGULATIONS:

- Oxygen USP is regulated by the FDA as a prescription drug.
- Depending on specific operations involving the use of this product, the regulations of the Process Safety Management of Highly Hazardous Chemicals may be applicable (29 CFR 1910.119). Under this regulation Oxygen is not listed in Appendix A.
- Oxygen does not contain any Class I or Class II ozone depleting chemicals (40 CFR part 82).
- Oxygen is not listed as a Regulated Substance, per 40 CFR, Part 68, of the Risk Management for Chemical.

CALIFORNIA PROPOSITION 65: Oxygen is not on the California Proposition 65 lists.

15. REGULATORY INFORMATION (Continued)

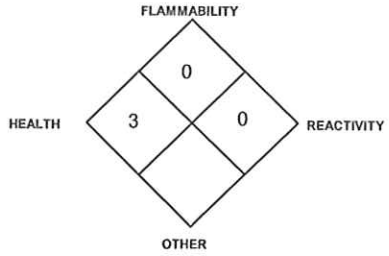
U.S. STATE REGULATORY INFORMATION: Oxygen is covered under the following specific State regulations:

Alaska - Designated Toxic and Hazardous Substances: No.
California - Permissible Exposure Limits for Chemical Contaminants: No.
Florida - Substance List: Oxygen.
Illinois - Toxic Substance List: No.
Kansas - Section 302/313 List: No.
Massachusetts - Substance List: Oxygen.
Michigan - Critical Materials Register: No.
Minnesota - List of Hazardous Substances: No.
Missouri - Employer Information/Toxic Substance List: No.
New Jersey - Right to Know Hazardous Substance List: Oxygen.
North Dakota - List of Hazardous Chemicals, Reportable Quantities: No.
Pennsylvania - Hazardous Substance List: Oxygen.
Rhode Island - Hazardous Substance List: Oxygen.
Texas - Hazardous Substance List: No.
West Virginia - Hazardous Substance List: No.
Wisconsin - Toxic and Hazardous Substances: No.

OTHER CANADIAN REGULATIONS: Oxygen is categorized as a Controlled Product, Hazard Classes A, and C as per the Controlled Product Regulations.

16. OTHER INFORMATION

NFPA RATING



HAZARDOUS MATERIAL IDENTIFICATION SYSTEM		
HEALTH HAZARD	(BLUE)	3
FLAMMABILITY HAZARD	(RED)	0
PHYSICAL HAZARD	(YELLOW)	0

PROTECTIVE EQUIPMENT			
EYES	RESPIRATORY	HANDS	BODY
See Section 8			

For Routine Industrial Use and Handling Applications

MIXTURES: When two or more gases or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death. Further information about oxygen can be found in the following pamphlets published by: Compressed Gas Association Inc. (CGA), 4221 Walney Road 5th floor, Chantilly, VA 20151-2923. Telephone: (703) 788-2700.

G-4	*"Oxygen"*
G-4.1	*"Cleaning Equipment of Oxygen Service"*
G-4.3	*"Commodity Specification for Oxygen"*
G-4.4	*"Industrial Practices for Gaseous Oxygen Transmission and Distribution Piping Systems"*
G-4.6	*"Oxygen Compressor Installation Guide"*
P-1	*"Safe Handling of Compressed Gases in Containers"*
P-14	*"Accident Prevention in Oxygen-Rich and Oxygen Deficient Atmospheres"*
SB-7	*"Rupture of Oxygen Cylinders in the Diving Industry"*
SB-8	*"Use of Oxy-fuel Gas Welding and Cutting Apparatus"*
AV-1	*"Safe Handling and Storage of Compressed Gases"*
AV-8	*"Characteristics and Safe Handling of Cryogenic Liquid and Gaseous Oxygen"*
AV-10	*"Safe Handling and Use of Medical Equipment and Gases in a Homecare Environment"*
	'Handbook of Compressed Gases"

PREPARED BY:

CHEMICAL SAFETY ASSOCIATES, Inc.
9163 Chesapeake Drive, San Diego, CA 92123-1002
619/565-0302

AIR LIQUIDE

Material Safety Data Sheet: **Simple Green® All-Purpose Cleaner and Simple Green® Scrubbing Pad**
Version No. 13005-12B Date of Issue: February 2012 *ANSI-Z400.1-2003 Format*

Section 1: PRODUCT & COMPANY IDENTIFICATION

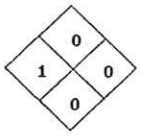
Product Name: Simple Green® All-Purpose Cleaner
Additional Names: Simple Green® Concentrated Cleaner Degreaser Deodorizer
Simple Green® Scrubbing Pad (Fluid in pad only)

Manufacturer's Part Number: **Please refer to page 4*

Company: Sunshine Makers, Inc.
15922 Pacific Coast Highway
Huntington Beach, CA 92649 USA
Telephone: 800-228-0709 • 562-795-6000 Fax: 562-592-3830
Emergency Phone: Chem-Tel 24-Hour Emergency Service: 800-255-3924

Section 2: HAZARDS IDENTIFICATION

Emergency Overview: **CAUTION. Irritant. This is a Green colored liquid with a sassafras added odor. Scrubbing pad is a green fibrous rectangle infused with Simple Green Cleaner.**



NFPA/HMIS Rating:
Health = 1 = slight
Fire, Reactivity, and Special = 0 = minimal

Potential Health Effects

Eye Contact: Mildly irritating.
Skin Contact: No adverse effects expected under typical use conditions. Prolonged exposure may cause dryness. Chemically sensitive individuals may experience mild irritation.
Ingestion: May cause stomach or intestinal irritation if swallowed.
Inhalation: No adverse effects expected under typical use conditions. Adequate ventilation should be present for prolonged usage in small enclosed areas.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percent Range
Water	7732-18-5	≥ 78%
2-butoxyethanol	111-76-2	≤ 5%
Ethoxylated Alcohol	68439-46-3	≤ 5%
Tetrapotassium Pyrophosphate	7320-34-5	≤ 5%
Sodium Citrate	68-04-2	≤ 5%
Fragrance	Proprietary Mixture	≤ 1%
Colorant	Proprietary Mixture	≤ 1%

Section 4: FIRST AID MEASURES

If Inhaled: If adverse effect occurs, move to fresh air.
If on skin: If adverse effect occurs, rinse skin with water.
If in eyes: Flush with plenty of water. After 5 minutes of flushing, remove contact lenses, if present. Continue flushing for at least 10 more minutes. If irritation persists seek medical attention.
If ingested: Drink plenty of water to dilute.

Section 5: FIRE FIGHTING MEASURES

This formula is stable, non-flammable, and will not burn. No special procedures necessary

Flammability: Non-flammable
Flash Point: Non-flammable

Suitable Extinguishing Media: Use Dry chemical, CO2, water spray or "alcohol" foam.
Extinguishing Media to Avoid High volume jet water.
Special Exposure Hazards: In event of fire created carbon oxides, oxides of phosphorus may be formed.
Special Protective Equipment: Wear positive pressure self-contained breathing apparatus; Wear full protective clothing.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: See section 8 – personal protection.

Environmental Precautions: Do not allow into open waterways and ground water systems.

Method for Clean Up: Dilute with water and rinse into sanitary sewer system or soak up with inert absorbent material.

Section 7: HANDLING AND STORAGE

Handling: Keep container tightly closed. Ensure adequate ventilation. Keep out of reach of children.

Storage: Keep in cool dry area.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values:	OSHA PEL	ACGIH TLV
2-butoxyethanol	TWA 50 ppm (240 mg/m^3)	20 ppm (97 mg/m^3)
Tetrapotassium Pyrophosphate		5 mg/m^3

Exposure Controls:
Eye Contact: Use protective glasses if splashing or spray-back is likely.
Respiratory: Use in well ventilated areas.
Skin Contact: Prolonged exposure or dermal sensitive individuals should use protective gloves.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Green Liquid	**Vapor Pressure:**	18 mmHg @20°C; 23.5 mmHg @26°C	
Odor:	Added Sassafras odor	**Density:**	8.5 lb/gal;	
Specific Gravity:	1.010 ± 0.010	**Water Solubility:**	100%	
pH:	9.5 ± 0.5	**VOC composite Partial Pressure:**		TBD
Boiling Point:	~210°F (98 °C)	**VOC:**	CARB Method 310	3.8%
Freezing Point:	~ 32°F (0 °C)		SCAQMD Method 313	2.8%
Nutrient Content:	Phosphorous: 0.28% Chloride: ~110 ppm	Sulfur: ~180 ppm Fluorine: ~90 ppm		

Section 10: STABILITY AND REACTIVITY

Stability:	Stable
Materials to Avoid:	None known
Hazardous Decomposition Products:	Normal products of combustion - CO, CO2; Oxides of Phosphorous may occur.

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Oral LD_{50} (rat) > 5 g/kg body weight
Dermal LD_{50} (rabbit) > 5 g/kg body weight
Toxicity calculated from ingredients using OECD SERIES ON TESTING AND ASSESSMENT Number 33

Carcinogens: No ingredients are listed by OSHA, IARC, or NTP as known or suspected carcinogens.

Section 12: ECOLOGICAL INFORMATION

Hazard to wild mammals:	Low, based on toxicology profile
Hazard to avian species:	Low, based on toxicology profile
Hazard to aquatic organisms:	Low, based on toxicology profile
Chemical Fate Information:	Readily Biodegradable per OECD 301D, Closed Bottle Test

Section 13: DISPOSAL CONSIDERATIONS

Appropriate Method for Disposal:

Unused Product:	*Dilute with water to use concentration and dispose by sanitary sewer.
Used Product:	*This product can enter into clarifiers and oil/water separators. Used product may be hazardous depending on the cleaning application and resulting contaminants.
Empty Containers:	*Triple-rinse with water and offer for recycling if available in your area. Otherwise, dispose as non-hazardous waste.

*Dispose of used or unused product, and empty containers in accordance with the local, State, Provincial, and Federal regulations for your location. Never dispose of used degreasing rinsates into lakes, streams, and open bodies of water or storm drains.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT) / Canadian TDG: Not Regulated
IMO / IDMG: Not classified as Dangerous
ICAO/ IATA: Not classified as Dangerous
ADR/RID: Not classified as Dangerous

U.N. Number	Not Required	Proper Shipping Name:	Detergent Solution
Hazard Class:	Non-Hazardous	Marine Pollutant:	No

Section 15: REGULATORY INFORMATION

All components are listed on: EINECS, TSCA, DSL and AICS Inventory.
No components listed under: Clean Air Act Section 112; Clean Water Act 307 & 311

SARA Title III: 2-butoxyethanol is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 as Category N230 – Certain Glycol Ethers.

RCRA Status: Not a hazardous waste CERCLA Status : No components listed

State Right To Know Lists

2-butoxyethanol Illinois, Massachusetts, New Jersey, Pennsylvania, Rhode Island

WHMIS Classification – Category D, subcategory 2B, eye irritant

Name	Toxic Substances List – Schedule 1 – CEPA (Canadian Environmental Protection Act)	NPRI Inventory
2-butoxyethanol	Yes	No

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by Canada's Controlled Products Regulation.

Section 16: OTHER INFORMATION

Questions about the information found on this MSDS should be directed to:
SUNSHINE MAKERS, INC. – TECHNICAL DEPARTMENT
15922 Pacific Coast Hwy. Huntington Beach, CA 92649
Phone: 800/228-0709 [8am-5pm Pacific time, Mon-Fri] *Fax:* 562/592-3830 *Email:* infoweb@simplegreen.com

CAGE CODE 1Z575
GSA/FSS - CONTRACT NO. GS-07F-0065J
Scrubbing Pad GSA/BPA - CONTRACT NO. GS-07F-BSIMP
National Stock Numbers & Industrial Part Numbers:

	Part Number	NSN	Size
Simple Green	13012	7930-01-342-5315	24 oz spray (12/case)
	13005	7930-01-306-8369	1 Gallon (6/case)
	13006	7930-01-342-5316	5 Gallon
	13016	7930-01-342-5317	15 Gallon
	13008	7930-01-342-4145	55 Gallon
	13103	N/A	2oz samples
	13225	N/A	2.5 Gallon
	13275	N/A	275 Gallon tote
	48049	N/A	1 Gallon Conc. w/ 32oz dilution
Scrubbing Pad	10224	7930-01-346-9148	Each (24/case)

Retail Numbers:

Part Number	Size
13002	16 oz Trigger (12/case)
13005	1 Gallon (6/case)
13013	24 oz Trigger (12/case)
13014	67 oz / 2 L (6/case)
13033	32 oz Trigger (12/case)
80007	Tier display holding 13005 (36/Tier)

part number is for both industrial and retail

****International Part Numbers May Differ.**

DISCLAIMER: The information provided with this MSDS is furnished in good faith and without warranty of any kind. Personnel handling this material must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of this material and the safety and health of employees and customers. Sunshine Makers, Inc. assumes no additional liability or responsibility resulting from the use of, or reliance on this information.

Material Safety Data Sheet

1 - Chemical Product and Company Identification

Manufacturer: WD-40 Company **Address: 1061 Cudahy Place (92110)** **P.O. Box 80607** **San Diego, California, USA** **92138 –0607** **Telephone:** **Emergency only: 1-888-324-7596 (PROSAR)** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**	**Chemical Name: Organic Mixture** **Trade Name: WD-40 Aerosol** **Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion** **MSDS Date Of Preparation: 3/11/10**

2 – Hazards Identification

Emergency Overview:
DANGER! Flammable aerosol. Contents under pressure. Harmful or fatal if swallowed. If swallowed, may be aspirated and cause lung damage. May cause eye irritation. Avoid eye contact. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Medical Conditions Aggravated by Exposure: Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

Suspected Cancer Agent:
Yes No X

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
Aliphatic Hydrocarbon	64742-47-8	45-50
Petroleum Base Oil	64742-58-1 64742-53-6 64742-56-9 64742-65-0	<25
LVP Aliphatic Hydrocarbon	64742-47-8	12-18
Carbon Dioxide	124-38-9	2-3
Surfactant	Proprietary	<2
Non-Hazardous Ingredients	Mixture	<10

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.

Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

5 – Fire Fighting Measures

Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Special Fire Fighting Procedures: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.
Unusual Fire and Explosion Hazards: Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

6 – Accidental Release Measures

Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.
Storage: Store in a cool, well-ventilated area, away from incompatible materials Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 TWA, 10 mg/m3 STEL ACGIH TLV 5 mg/m3 TWA OSHA PEL
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH)
Surfactant	None Established
Non-Hazardous Ingredients	None Established

The Following Controls are Recommended for Normal Consumer Use of this Product
Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Always spray away from your face.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.

Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Boiling Point:	361 - 369°F (183 - 187°C)	Specific Gravity:	0.8 – 0.82 @ 60°F
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	95-115 PSI @ 70°F	Vapor Density:	Greater than 1
Percent Volatile:	70-75%	VOC:	412 grams/liter (49.5%)
Coefficient of Water/Oil Distribution:	Not Determined	Appearance/Odor	Light amber liquid/mild odor
Flash Point:	122°F (49°C) Tag Open Cup (concentrate)	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8.0%
Pour Point:	-63°C (-81.4°F) ASTM D-97	Kinematic Viscosity:	2.79-2.96cSt @ 100°F

10 – Stability and Reactivity

Stability: Stable
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.
Incompatibilities: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

The oral toxicity of this product is estimated to be greater than 5,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.
None of the components of this product is listed as a carcinogen or suspected carcinogen or is considered a reproductive hazard.

12 – Ecological Information

No data is currently available.

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information_

DOT Surface Shipping Description: Consumer Commodity, ORM-D
IMDG Shipping Description: Un1950, Aerosols, 2.1, LTD QTY

15 – Regulatory Information

U.S. Federal Regulations:

CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not contain chemicals regulated under California Proposition 65.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
Canadian Environmental Protection Act: One of the components is listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.
Canadian WHMIS Classification: Class B-5 (Flammable Aerosol)
This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Reactivity – 0 (minimal hazard)

SIGNATURE: Peter P. [signature]

TITLE: Director of Global Quality Assurance

REVISION DATE: March 2010

SUPERSEDES: August 2009