DISCUS DENTAL®

FLUORIDEX®

PART I *What is the material and what do I need to know in an emergency?*

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED):	Fluoridex Daily Defense 1.1% NSF 5000ppm Sensitivity Relief Toothpaste
CHEMICAL NAME/CLASS:	Toothpaste
PRODUCT USE:	Dental Care Product
SUPPLIER/MANUFACTURER'S NAME:	DISCUS DENTAL Incorporated
ADDRESS:	8550 Higuera Street, Culver City, CA 90232
MSDS MESSAGE LINE:	(310) 845 - 8450
BUSINESS PHONE:	(310) 845 - 8200
DATE OF PREPARATION:	September 29, 2006

This product is sold for commercial use. This MSDS has been developed to address safety concerns of those individuals working with bulk quantities of this material, as well as those of potential users of this product in industrial /occupational settings. All pertinent health, safety and environmental information has been presented based on ANSI Z400.1-2003, the US Federal OSHA Hazard Communication Standard (29 CFR 1910.1200) and Canadian Workplace Hazardous Materials Information System (WHMIS) and Controlled Products Regulations (CPR).

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL DESCRIPTION: This product is a dark green gel paste with a mint odor.

WARNINGS (per ANSI Z129.1

CAUTION! EYE, SKIN, AND RESPIRATORY TRACT IRRITANT.

PRECAUTIONS (per ANSI Z129.1):

Do not breathe fumes, dusts, vapors or mist. Do not swallow or take internally. Do not get in eyes or on clothing.

HAZARD SYMBOLS:

HMIS HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	**1**
Flammability	**1**
Physical Hazard	**0**
Protective Equipment	**B**

HMIS PERSONAL PROTECTIVE EQUIPMENT RATING:

Industrial Use situations: B; Safety Glasses, Gloves.

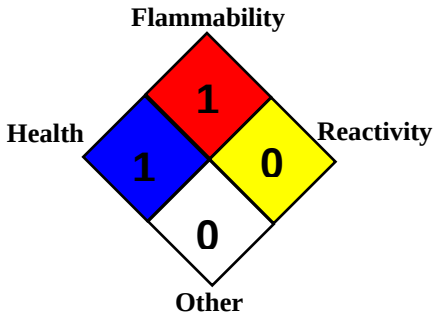
CANADIAN WHMIS SYMBOLS:

D2A - Poisonous and infectious material - Other effects – Toxic

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

HAZARDS IDENTIFICATION - continued

NFPA RATING



See Section 16 for Definitions of ratings

OSHA REGULATORY STATUS

This material is classified as hazardous under OSHA regulations.

POTENTIAL HEALTH EFFECTS

The most significant routes of occupational overexposure are ingestion and contact with skin and eyes. The symptoms of overexposure to this product are as follows:

CONTACT WITH SKIN or EYES: Contact can cause eye or skin irritation. Prolonged skin contact can result in dermatitis. Prolonged eye exposure may include redness, pain, and tearing.

SKIN ABSORPTION: No component of this product is reported to be absorbed through intact skin.

INGESTION: If the product is swallowed, irritation of the mouth, throat, and other tissues of the gastro-intestinal system can occur. Ingestion of large amounts can cause irritation, pain, vomiting, and diarrhea.

INHALATION: Overexposure to vapors, mists, sprays, or dusts of this product can cause irritation to the respiratory tract.

INJECTION: Accidental injection of this product can cause burning, reddening, and swelling in addition to the wound. Symptoms of such exposure can include those described under "Inhalation", "Contact with Skin or Eyes," and "Ingestion".

CHRONIC EFFECTS: Long-term skin or eye contact can result in dermatitis or eye irritation.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Eye and skin irritation (redness or swelling). Long term overexposure could lead to fluorosis. See Section 11: TOXICOLOGICAL INFORMATION.

POTENTIAL ENVIRONMENTAL EFFECTS

This product does not normally present a significant hazard to aquatic or terrestrial life in small quantities. Do not discharge effluent containing this product into streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or the EPA.

3. HAZARD IDENTIFICATION

CHEMICAL NAME	CAS #	% w/w
Silicon Dioxide (amorphous)	112926-00-8	10% - 30%
Sodium Lauryl Sulfate	9004-82-4	1% - 7%
Potassium Nitrate	7757-79-1	5.0%
Sodium Fluoride	7681-49-4	1.13%
Water and ingredients present in concentrations of less than 1% (or less than 0.1% if carcinogens)		Balance
The ingredients in the balance of this product do not contribute significant hazards beyond those described in this document.		

PART II *What should I do if a hazardous situation occurs?*

4. FIRST-AID MEASURES

Victims of chemical exposure must be taken for medical attention if any adverse effects occur. Take a copy of label and MSDS to physician or health professional with victim.

FIRST AID PROCEDURES

SKIN EXPOSURE: If this product contaminates the skin, decontaminate with running water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention if any adverse exposure symptoms develop.

EYE EXPOSURE: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Victim must seek medical attention.

INHALATION: If vapors, mists, or sprays of this product are inhaled, remove victim to fresh air. Victim must seek immediate medical attention if any adverse exposure symptoms develop. If necessary, use artificial respiration to support vital functions.

INGESTION: If a quantity of this product is swallowed in excess of amount normally swallowed during routine dental treatment, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directed by medical personnel. Have victim rinse mouth with water, if conscious. Never induce vomiting or give a diluent (e.g., water) to someone who is unconscious, having convulsions, or unable to swallow. If contaminated individual is convulsing, maintain an open airway and obtain immediate medical attention.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Persons with pre-existing skin disorders, eye problems, or impaired respiratory function can be more susceptible to health effects associated with overexposures to this product.

NOTE TO PHYSICIANS

Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

FLAMMABLE PROPERTIES

This product requires considerable pre-heating before ignition and combustion will occur. This material will not significantly contribute to the intensity of a fire. Use extinguishing material suitable to the surrounding fire. Not sensitive to mechanical impact under normal conditions. Not sensitive to static discharge under normal conditions.

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA:

Water Spray:	OK	Carbon Dioxide:	OK
Foam:	OK	Dry Chemical:	OK
Halon:	OK	Other	Any “ABC” Class

UNSUITABLE EXTINGUISHING MEDIA:
None

PROTECTION OF FIREFIGHTERS

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL:
When involved in a fire, this material can decompose and produce irritating fumes and toxic gases (e.g., Carbon monoxide, Carbon dioxide, Oxides of Nitrogen).

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS:
Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. Isolate from incompatible chemicals (see Section 10, Stability and Reactivity), heat, sparks, electrical equipment, and open flame.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Responders should wear the level of protection appropriate to the type of chemical released, the volume or amount of the material spilled, and the location where the incident has occurred. Level D Protective Equipment (gloves, chemical resistant apron, boots, and eye protection) should be adequate for this product under most circumstances.

6. ACCIDENTAL RELEASE MEASURES – continued

ENVIRONMENTAL PRECAUTIONS

Minimize use of water to prevent environmental contamination. Prevent spill or rinsate from contamination of storm drains, sewers, soil or groundwater. Place all spill residues in a suitable container and seal. Dispose of in accordance with applicable U.S. Federal, State, or local procedures or appropriate standards of Canada (see Section 13, Disposal Considerations)

METHODS FOR CONTAINMENT

SPILL AND LEAK RESPONSE: Trained personnel using pre-planned procedures should respond to uncontrolled releases. Proper protective equipment should be used. In case of a spill, clear the affected area and protect people.

RESPONSE TO INCIDENTAL RELEASES: Personnel who have received basic chemical safety training can generally handle small-scale releases of this product. Respond to incidental chemical releases by wearing gloves, goggles, and appropriate body protection.

RESPONSE TO NON-INCIDENTAL RELEASES: Respond to non-incidental chemical releases of this product, such as the simultaneous puncturing of several containers, by clearing the impacted area and contacting appropriate emergency personnel. Clean up should only be done by qualified personnel.

METHODS FOR CLEAN-UP

Prevent spill or rinsate from contaminating storm drains, sewers, soil or groundwater. Absorb spilled liquid with polypads or other suitable absorbent materials. Vacuum or sweep material and place in a disposal container. Decontaminate the area thoroughly

OTHER INFORMATION

US regulations require reporting spills of this material that could reach any surface waters. The toll-free phone number for the US Coast Guard National Response Center is 1-800-424-8802.

PART III *How can I prevent hazardous situations from occurring?*

7. HANDLING and STORAGE

HANDLING

As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after using this product. Do not eat or drink while using this material. Avoid generating dusts, mists or sprays of this product. Avoid contact with eyes or clothing. In the event of a spill, follow practices indicated in Section 6 (Accidental Release Measures). Collect any rinsates and dispose of according to applicable U.S. Federal, State, or local procedures or appropriate Canadian standards. All employees who handle this material should be trained to use it safely.

STORAGE

This product is stable under ordinary conditions of handling, use and storage. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10, Stability and Reactivity). Keep container tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE GUIDELINES:

CHEMICAL NAME	CAS #	Guideline	Value
Amorphous Silica	112926-00-8	TLV-TWA (ACGIH)	10 mg/m^3
		PEL- TWA (OSHA)	15 mg/m^3 (total dust) 5 mg/m^3 (respirable fraction)

Not Established for other components. See Section 16 for Definitions of Terms Used.

ENGINEERING CONTROLS

Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

EYE/FACE PROTECTION

For specific industrial applications, enhanced eye protection can be necessary. Use approved safety goggles or safety glasses, as described in OSHA 29 CFR 1910.133. If necessary, refer to U.S. OSHA 29 CFR 1910.133, or appropriate Canadian standards.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION - continued

SKIN PROTECTION

For specific industrial applications, wear chemical impervious gloves (e.g., Neoprene or Nitrile). If necessary, refer to U.S. OSHA 29 CFR 1910.138 or the appropriate standards of Canada. For consumer use, no specific body protection is normally needed.

BODY PROTECTION

For general industrial applications, chemically protective clothing is not normally needed. Use chemically protective clothing appropriate for task (e.g., Tyvek suit, rubber apron). If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects can pierce the soles of the feet or where employee's feet can be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.

RESPIRATORY PROTECTION

None needed under normal conditions of use or handling. Use NIOSH approved respirators if ventilation is inadequate to control dusts, mists, fumes or vapors. Maintain airborne contaminate concentrations below guidelines listed above. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres use of a full-face-piece pressure/demand SCBA or a full face-piece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (29 CFR 1910.134).

9. PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

RELATIVE VAPOR DENSITY (air = 1):	Not Available	EVAPORATION RATE (BuAc =1):	Not Available
SPECIFIC GRAVITY:	> 1	MELTING/FREEZING POINT:	Not Available
SOLUBILITY IN WATER:	Miscible	BOILING POINT:	Not Available
VAPOR PRESSURE, mm Hg @ 20°C:	Not Available	pH:	~7.0 – 7.5
COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT)			Not Available

PHYSICAL STATE, APPEARANCE AND COLOR: Dark green gel paste with a minty odor.

HOW TO DETECT THIS SUBSTANCE (warning properties): The appearance and odor of this product can act as warning properties in the event of an accidental release

CHEMICAL PROPERTIES

ODOR THRESHOLD: Not Available

FLASH POINT: Not determined AUTOIGNITION TEMPERATURE: Not determined

FLAMMABLE LIMITS (in air by volume, %):

Lower: Not determined Upper: Not determined

10. STABILITY and REACTIVITY

CHEMICAL STABILITY

Stable under normal circumstances of use and handling.

CONDITIONS TO AVOID

Avoid contact with incompatible chemicals and exposure to extreme temperatures.

INCOMPATIBLE MATERIALS

This product is not compatible with strong bases and strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition of this product can generate dusts, irritating fumes, and toxic gases (e.g., Carbon monoxide, Carbon dioxide, Oxides of Nitrogen).

POSSIBILITY OF HAZARDOUS REACTIONS

This product is not expected to undergo hazardous polymerization, decomposition, condensation or self-reactivity.

PART IV *Is there any other useful information about this material?*

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following toxicity data are available for components of this product.

The following data are for Silica, amorphous:

Unscheduled DNA Synthesis-Rat-Intratracheal 120 mg/kg
Body Fluid Assay-Rat: lung 120 mg/kg
Inhalation-Rat TCLo:50 mg/m3/6H/2Y-I:Carcinogenic effects
Oral-Rat LD50:3160 mg/kg
Intraperitoneal-Rat LDLo:50 mg/kg
Intravenous-Rat LD50:15 mg/kg
Intratracheal-Rat LDLo:10 mg/kg
Intraperitoneal-Guinea Pig, adult LDLo:120 mg/kg

The following data are available for Potassium nitrate:

LD_{50}= 1,166 mg (anion)/kg (oral, rabbit (Merck 7815))

The following data are available for Sodium Fluoride

Oral Rat LD_{50} – 64 mg/kg
Oral Mouse LD_{50} – 22 mg/kg
Intravenous Rat LD_{50} – 12 mg/kg
Chronic overexposure can lead to fluorosis

SUSPECTED CANCER AGENT: The following table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be, or suspected to be, a carcinogen by the listed agency, see section 16 for definition of other ratings.

CHEMICAL	IARC	NTP	NIOSH	ACGIH	OSHA	CA PROP 65
Silicon Dioxide (amorphous)	No	No	No	No	No	No
Sodium Lauryl Sulfate	No	No	No	No	No	No
Potassium Nitrate	No	No	No	No	No	No
Sodium Fluoride	No	No	No	No	No	No

IRRITANCY OF PRODUCT: This product can be mildly irritating. Prolonged exposure can lead to tissue damage.

SENSITIZATION TO THE PRODUCT: This product has not been reported to be a sensitizer.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: None.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity: When used as directed, this product is not expected to produce mutagenic effects in humans.
Embryotoxicity: When used as directed, this product is not expected to produce embryotoxic effects in humans.
Teratogenicity: When used as directed, this product is not expected to produce teratogenic effects in humans.
Reproductive Toxicity: When used as directed, this product is not expected to produce reproductive toxicity in humans.

A mutagen is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical that 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 that causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance that interferes in any way with the reproductive process.

BIOLOGICAL EXPOSURES INDICES (BEIs): There are no BEI's established for any component of this product at this time.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ECOTOXICITY:

This product can be harmful to terrestrial plant and animal life if large volumes of it are released into the environment. Refer to Section 11, "Toxicological Information", for specific animal data. This product can be harmful to animal life if large volumes of it are released into an aquatic environment. The following aquatic toxicity data is available for components of this product:

The following data are available for Glycerin:

LC50 (96 Hr.) rainbow trout = 50-67 mg/L; 12 degrees
C LC50 (96 Hr.) goldfish = >5000 mg/L

12. ECOLOGICAL INFORMATION - Continued

PERSISTENCE/DEGRADABILITY:

There is no environmental stability data for any component of this product at this time.

BIOACCUMULATION/ACCUMULATION:

There is no accumulation data for any component of this product at this time

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Recover or recycle if possible. **Consumer Waste:** Dispose of according to pertinent state and local household waste and requirements**. Industrial Use:** Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations or with regulations of Canada.
EPA WASTE NUMBER: The specific RCRA codes depend on the exact nature of the discarded material.

14. TRANSPORTATION INFORMATION

BASIC SHIPPING DESCRIPTION

This product is not hazardous per 49 CFR 172.101, the U.S. Department of Transportation.

PROPER SHIPPING NAME:	Not Regulated
HAZARD CLASS NUMBER and DESCRIPTION:	Not Regulated
UN IDENTIFICATION NUMBER:	Not Regulated
DOT LABEL(S) REQUIRED:	Not Regulated
PACKAGING GROUP:	Not Regulated
NORTH AMERICAN RESPONSE GUIDEBOOK NUMBER (2000):	Not Regulated
MARINE POLLUTANT:	No component is designated as a DOT Marine Pollutant.

ADDITIONAL INFORMATION

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is not considered as dangerous goods, per Transport Canada regulations.

This product is not hazardous per International Air Transport Association (IATA), International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO) Regulations

15. REGULATORY INFORMATION

ADDITIONAL U.S. REGULATIONS - EPA REPORTING REQUIREMENTS:

The following reporting requirements are applicable to components of this product:

CHEMICAL	SECTION 302 EHS (TPQ) (40 CFR 355, Appendix A)	SECTION 304 RQ (40 CFR Table 302.4)	SECTION 313 TRI (threshold) (40 CFR 372.65)
Silicon Dioxide (amorphous)	No	NA	No
Sodium Lauryl Sulfate	No	NA	No
Potassium Nitrate	No	NA	No
Sodium Fluoride	No	NA	No

U.S. SARA SECTION 311/312 FOR PRODUCT: Acute health effects.
U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory.
OTHER U.S. FEDERAL REGULATIONS: Not applicable.
CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

No component of this material is found on either the Proposition 65 Carcinogen List or the Adverse Reproductive Effects List.

ADDITIONAL CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are listed on the DSL Inventory.

16. OTHER INFORMATION

PREPARED BY: ADVANCED CHEMICAL SAFETY, Inc.
7563 Convoy Court
San Diego, CA 92111
(858)-874-5577

DATE OF PRINTING October 4, 2006

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these, which are commonly used, include the following:

CAS #: This is the Chemical Abstract Service Number that uniquely identifies each compound.

ACGIH - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits.

TLV - Threshold Limit Value - an airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers can be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour Time Weighted Average **(TWA)**, the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level **(C)**. Skin absorption effects must also be considered.

OSHA - U.S. Occupational Safety and Health Administration.

PEL - Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL that was vacated by Court Order.

IDLH - Immediately Dangerous to Life and Health - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. **The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. **O**ccupational **S**afety and **H**ealth **A**dministration (**OSHA**). NIOSH issues exposure guidelines called **R**ecommended **E**xposure **L**evels (**REL**s). When no exposure guidelines are established, an entry of **NE** is made for reference.

OEL – Occupational Exposure Level – In some cases, specific exposure guidelines have been assigned by industry. These are referred to as "Occupational Exposure Levels."

HAZARD RATINGS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: Health Hazard: **0** (minimal acute or chronic exposure hazard); **1** (slight acute or chronic exposure hazard); **2** (moderate acute or significant chronic exposure hazard); **3** (severe acute exposure hazard; onetime overexposure can cause permanent injury and can be fatal); **4** (extreme acute exposure hazard; onetime overexposure can be fatal). An "*" indicates that the health hazard is chronic. Flammability Hazard: **0** (minimal hazard); **1** (materials that require substantial pre-heating before burning); **2** (combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]); **3** (Class IB and IC flammable liquids with flash points below 38°C [100°F]); **4** (Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]. Reactivity Hazard: **0** (normally stable); 1 (material that can become unstable at elevated temperatures or which can react slightly with water); **2** (materials that are unstable but do not detonate or which can react violently with water); **3** (materials that can detonate when initiated or which can react explosively with water); **4** (materials that can detonate at normal temperatures or pressures).

NATIONAL FIRE PROTECTION ASSOCIATION: Health Hazard: **0** (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); **1** (materials that on exposure under fire conditions could cause irritation or minor residual injury); **2** (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); **3** (materials that can on short exposure could cause serious temporary or residual injury); **4** (materials that under very short exposure could cause death or major residual injury). Flammability Hazard and Reactivity Hazard: Refer to definitions for "Hazardous Materials Identification System".

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (**NFPA**). Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION:

Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD_{50}** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC_{50}** - Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m^3** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo**, **LDLo**, **LDo**, **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects. **BEI** - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV. Ecological Information: **EC** is the effect concentration in water.

Data from several sources are used to evaluate the cancer-causing potential of the material. The sources and ratings are: **IARC** - the International Agency for Research on Cancer; 1 = Carcinogenic to humans, 2A, 2B = Probably carcinogenic to humans, 3 = Unclassifiable as to carcinogenicity in humans, and 4 = Probably not carcinogenic to humans. **NTP** - the National Toxicology Program; K =Known to be a human carcinogen, and R = Reasonably anticipated to be a human carcinogen. **RTECS** - the Registry of Toxic Effects of Chemical Substances. **OSHA** - Occupational Safety and Health Administration and **CAL/OSHA** - California's subunit of the Occupational Safety and Health Administration; Ca = Carcinogen defined with no further categorization. **ACGIH –** American Conference of Governmental Industrial Hygienists; A1 = Confirmed human carcinogen, A2 = Suspected human carcinogen, A3 = Confirmed animal carcinogen with unknown relevance to humans, A4 = Not classifiable as a human carcinogen, and A5 = Not suspected as a human carcinogen. **NIOSH** – U.S. National Institute for Occupational Safety and Health; Ca = Potential occupational carcinogen, with no further categorization. **EPA** – U.S. Environmental Protection; A = Human carcinogen, B = Probable human carcinogen, C = Possible human carcinogen, D = Not classifiable as to human carcinogenicity, E = Evidence of Non-carcinogenicity for humans, K = Known human carcinogen, L = Likely to produce cancer in humans, CBD = Cannot be determined, NL = Not likely to be carcinogenic in humans, and I = Data are inadequate for an assessment of human carcinogenic potential.

REGULATORY INFORMATION:

This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **DOT** and **TC** are the U.S. Department of Transportation and the Transport Canada, respectively. Superfund Amendments and Reauthorization Act **(SARA)**; the Canadian Domestic/Non-Domestic Substances List **(DSL/NDSL)**; the U.S. Toxic Substance Control Act **(TSCA)**; Marine Pollutant status according to the **DOT**; the Comprehensive Environmental Response, Compensation, and Liability Act **(CERCLA or Superfund)**; and various state regulations. This section also includes information on the precautionary warnings that appear on a material's industrial package label.