

# SAFETY DATA SHEET



This Safety Data Sheet (SDS) complies with the requirements of the U.S. Federal Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200, as updated in 2012), the American National Standards Institute (Z400.1, 1998), and equivalent state Standards. It has also been developed in accordance with the Canadian Workplace Hazardous Materials Standard and the United Nations Globally Harmonized System of Classification of Chemicals, as well as European Union requirements under REACH (Registration, Evaluation, Authorization and Restriction of Chemical substances, per EC 1907/2006) and Directive 91/155/EC. Refer to Section 16 of this document for the definition of terms and abbreviations.

## SECTION 1: IDENTIFICATION of the Substance/Mixture and of the Company/Undertaking

### 1.1 PRODUCT IDENTIFIER:

- PRODUCT NAME: **GRIFFITH ANTIFLUX**
- SYNONYMS: Not Applicable
- CHEMICAL NAME/CLASS: Alcohol Solution
- PRODUCT CODE: 54.463 (1 oz); 54.464 (4 oz)

### 1.2 RELEVANT IDENTIFIED USES OF THE MIXTURE OR USES ADVISED AGAINST

- IDENTIFIED USE: Soldering.
- USES ADVISED AGAINST: None Specified

### 1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

- DISTRIBUTED BY: **GROBET FILE CO. OF AMERICA, INC.**
- ADDRESS: 750 Washington Ave.; Carlstadt, NJ 07072
- BUSINESS PHONE: 201-939-6700; Toll Free – 800-847-4188 (USA only)
- EMERGENCY PHONE: 1-800-255-3924 (9 am – 5 pm EST)

### 1.4 OTHER PERTINENT INFORMATION

- This product is used in relatively small volume (i.e., 1 pint) and less in size). This SDS has been developed to address safety concerns affecting small volume handling situations and those involving warehouses and other workplaces where large numbers of these items are stored or distributed.

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

REGULATION	CLASSIFICATION
OSHA HAZARD COMMUNICATION (GHS)	Flammable liquids (Category 2); Reproductive Toxicity (1B)

### 2.2 LABEL ELEMENTS:

3 OSHA/CLP – BASED ON GLOBALLY HARMONIZED SYSTEM

**Symbol:** To the right.

**Signal Word:** Danger.

**Hazard statement(s)**

Highly flammable liquid and vapor. May damage fertility or the unborn child.



Anti Flux  
709041

## SECTION 2: HAZARDS IDENTIFICATION (Continued)

<b>Precautionary Statements</b>	
<b>Prevention</b>	Keep out of reach of children. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, and hot surfaces – No smoking. Keep container tightly closed. Use only non-sparking tools. Take precautionary measures against static electrical discharge. Wear eye protection/face protection/protective clothing/protective gloves.
<b>Response</b>	If exposed or concerned: Get medical advice/ attention. IF ON SKIN (or hair): Take off all contaminated clothing. Rinse with water/shower. IN CASE OF FIRE: Use Class B Fire Extinguisher.
<b>Storage</b>	Store in a well-ventilated place. Keep cool.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.

### HAZARDOUS MATERIALS IDENTIFICATION SYSTEM

<b>Health</b>	<b>2</b>	HMIS Personal Protective Equipment Rating: Occupational Use situations: B/C; Safety glasses and gloves/ body protection suitable to specific circumstances of use should be considered.
<b>Flammability</b>	<b>3</b>	
<b>Physical Hazard</b>	<b>0</b>	
<b>Protective Equipment</b>	<b>B/C</b>	

### CANADIAN REGULATORY STATUS

- This product is classified as hazardous under Canadian Controlled Products regulations (SOR-88-66). It is classified – B2: Flammable Liquid; D2-A: Materials Causing Other Toxic Effects/Very Toxic Material: This SDS contains all the information required by the CPR.



## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1/3.2 SUBSTANCES/MIXTURES

CHEMICAL	CAS NUMBER	GHS HAZARD CLASSIFICATION FOR CHEMICAL	% (w/w)
Ethanol	64-17-5	Flammable liquids (Category 2)	Proprietary <sup>1</sup>
Sodium Tetraborate	1330-43-4	Reproductive toxicity (Category 1B)	Proprietary
Iron Oxide Yellow	51274-00-1	Not classified.	Proprietary
The remaining components of this product are not classified as hazardous in their existing concentrations			Balance

## SECTION 4: FIRST AID MEASURES

### 44.1 DESCRIPTION OF FIRST AID MEASURES

#### AREA EXPOSED

#### Eye Contact

Flush with copious amounts of water for 15 minutes. "Roll" eyes during flush. Check for and remove contact lenses. Seek medical attention if irritation persists.

#### Skin Contact

Flush area with warm, running water for several minutes. Seek medical attention if irritation persists.

#### Inhalation

Obtain fresh air.

#### Ingestion

If conscious only: Rinse mouth with water. Drink several cups of water. Do not induce vomiting. Contact a Poison Control Center or physician for instructions.

<sup>1</sup> The exact percentage of composition has been withheld as a trade secret. All relevant physical and health hazards have been declared, in accordance with regulatory requirements.

## SECTION 4: FIRST AID MEASURES (Continued)

### 4.2 MOST IMPORTANT ACUTE AND CHRONIC EXPOSURE SYMPTOMS

- ACUTE HEALTH EFFECTS:

**AREA EXPOSED**

**Eye Contact**

May cause mild to moderate eye irritation, depending on duration of contact.

**Skin Contact**

May cause mild skin irritation, depending on duration of contact.

**Inhalation**

May cause mild respiratory tract irritation; symptoms may include coughing and sneezing depending on volume of mist/spray inhaled. Inhalation of vapors can cause central nervous system effects (i.e., drowsiness, dizziness)

**Ingestion**

May cause gastrointestinal system irritation; symptoms may include pain, diarrhea, nausea and vomiting if large volumes are ingested. Ingestion of the product may also cause central nervous system effects. This product presents a hazard via aspiration: Inhalation may cause life-threatening damage to lungs.

- CHRONIC HEALTH EFFECTS:** Borates (e.g., Sodium Tetraborate, a component of this product) can cause severe, adverse effects if swallowed in large quantities. Swallowing this product can cause gastric disturbances, electrolyte imbalances, and potentially cyanosis (a bluish discoloration of the skin due to deficient oxygenation of the blood). Borate poisoning begins with nausea, vomiting, and diarrhea. There is a red rash followed by exfoliation of rash area and mucous membranes. Kidney injury and central nervous system effects have been observed in cases of severe adult and pediatric exposures.
- TARGET ORGANS:** Skin, eyes, reproductive system.

### 4.3 INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

- GENERAL INFORMATION: For all exposures:** In case of accident, or if you feel unwell, seek medical advice immediately. Take this document and a copy of the label to the healthcare professional.
- RECOMMENDATIONS TO PHYSICIANS:** Treat symptomatically.
- MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** None reported.

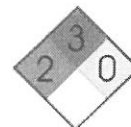
## SECTION 5: FIREFIGHTING MEASURES

### 5.1 EXTINGUISHING MEDIA

- RECOMMENDED FIRE EXTINGUISHING MEDIA:** Dry Powder, Foam, Carbon Dioxide, Halon, or any other suited to flammable liquids.
- UNSUITABLE FIRE EXTINGUISHING MEDIA:** None known.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

- NFPA FLAMMABILITY CLASSIFICATION:** Class IB Flammable Liquid.
- UNUSUAL HAZARDS IN FIRE SITUATIONS:** When involved in a fire, this material may produce irritating vapors and toxic gases (e.g., carbon monoxide, carbon dioxide).
  - Sensitivity to Mechanical Impact:** Not sensitive.
  - Explosion Sensitivity to Static Discharge:** Static electrical sparks can ignite vapors.



### 5.3 ADVICE FOR FIREFIGHTERS

Wear Self Contained Breathing Apparatus and full protective equipment for fire response. Move containers from fire area if it can be done without risk to personnel. Otherwise, use water spray to keep fire-exposed containers cool. Contaminated equipment should be rinsed thoroughly with water before returning to service.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

- **RESPONSE TO INCIDENTAL RELEASES:** Personnel who have received basic chemical safety training can generally handle small-scale releases (e.g., under 1 pint). For small releases, the minimum Personal Protective Equipment should be rubber gloves and rubber apron, splash goggles or safety glasses. Use caution during clean-up; avoid stepping into spilled liquid, as contaminated surfaces can be very slippery.
- **RESPONSE TO NON-INCIDENTAL RELEASES:** Generally, releases of this product will be no larger than the loss of one shipment of material (therefore, 1 pint or less). Subsequently, personnel can follow the instructions for incidental releases. As needed, respond to non-incident chemical releases of this product (such as the simultaneous destruction of several pallets of this product) by clearing the impacted area and contacting appropriate emergency personnel.
- **RESPONSE PROCEDURES FOR ANY RELEASE:** Absorb spilled liquid with polypads or other suitable absorbent materials. Rise equipment/area thoroughly with detergent/water solution, if necessary.

### 6.2 ENVIRONMENTAL PRECAUTIONS

- Avoid response actions that can cause a release of a significant amount of the substance (1 liter or more) into the environment.

### 6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

- **SPILL RESPONSE EQUIPMENT:** Polypads or other absorbent material; detergent/water solution.

### 6.4 REFERENCES TO OTHER SECTIONS

- **SECTION 8:** For exposure levels and detailed personal protective equipment recommendations.
- **SECTION 13:** For waste handling guidelines.

## SECTION 7: HANDLING AND STORAGE

### 7.1 PRECAUTIONS FOR SAFE HANDLING

- **HYGIENE PRACTICES:** Keep out of reach of children. Follow good chemical hygiene practices. Do not smoke, drink, eat, or apply cosmetics in the chemical use area. Avoid inhalation of vapors, mists, sprays. Use in well-ventilated area. Avoid contact with skin or eyes. Remove contaminated clothing promptly. Clean up spilled product immediately.
- **HANDLING RECOMMENDATIONS:** Employees must be appropriately trained to use this product safely as needed. Keep containers closed when not in use. Open containers slowly on a stable surface. Use non-sparking tools. Bond and ground containers during transfers of material. If this product is transferred into another container, only use portable containers and dispensing equipment (faucet, pump, drip can) approved for flammable liquids. Never perform any welding, cutting, soldering, drilling, or other hot work on an empty container or piping until all liquid, vapors, and residue have been cleared.

### 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

- **STORAGE RECOMMENDATIONS:** Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Have appropriate extinguishing equipment in the storage area (e.g., sprinkler system, portable fire extinguishers). Ensure all containers are correctly labeled. Store containers away from direct sunlight, sources of intense heat, or where freezing is possible. Store this product away from incompatible chemicals (See Section 10, Stability and Reactivity). Empty containers may contain residual material; therefore, empty containers should be handled with care. Material should be stored in secondary containers, or in a diked area, as appropriate. Storage and use areas should be covered with impervious materials. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

### 7.3 SPECIFIC END USES

- **RECOMMENDATIONS:** Place product away from children and animals.
- **INDUSTRIAL-SECTOR SPECIFIC SOLUTIONS: PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT --** Follow practices indicated in Section 6 (Accidental Release Measures).

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS

- **U.S. NATIONAL EXPOSURE LIMITS:**

COMPONENT	ACGIH TLV	OSHA PEL	NIOSH REL	OTHER
Ethyl Alcohol	1000 ppm STEL	1000 ppm TWA	1000 ppm TWA	NE
Sodium Tetraborate	2mg/m <sup>3</sup> TWA; 6 mg/m <sup>3</sup> STEL	NE	NE.	NE.

- **BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS:** Not applicable..

### 8.2 EXPOSURE CONTROLS

- **ENGINEERING CONTROLS:** Use this product in well-ventilated environment. Safety showers, eye wash stations, and hand-washing equipment should be available.
- **RESPIRATORY PROTECTION:** None needed under normal conditions of use. Use NIOSH approved respirators if ventilation is inadequate to control mists or sprays. For situations in which significant amounts of splashes, sprays, or mists could be generated, wear an air-purifying respirator with an organic vapor filter.
- **HAND PROTECTION:** Nitrile or neoprene gloves should be used. If necessary, refer to U.S. OSHA 29 CFR 1910.138, appropriate Standards of Canada, or of the European Economic Community.
- **EYE PROTECTION:** Splash goggles or safety glasses. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, or the European Standard EN166.
- **BODY PROTECTION:** Use a body protection appropriate to task (e.g., lab coat, coveralls, or apron). Care should be taken to select protection for potentially exposed areas when prolonged exposure could occur in occupational settings.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>(a) <b>APPEARANCE:</b> Yellow liquid.</li> <li>(b) <b>ODOR:</b> Alcohol odor.</li> <li>(c) <b>ODOR THRESHOLD:</b> Not determined.</li> <li>(d) <b>pH:</b> Not applicable.</li> <li>(e) <b>MELTING POINT/FREEZING POINT:</b> Not determined.</li> <li>(f) <b>INITIAL BOILING POINT AND BOILING RANGE:</b> &lt; 238 °C (173 °F) (Estimated)</li> <li>(g) <b>FLASH POINT:</b> 12°C (53°F) (Estimated)</li> <li>(h) <b>EVAPORATION RATE (nBuAc=1):</b> &lt; 1</li> <li>(i) <b>FLAMMABILITY:</b> Class IB Flammable Liquid.</li> <li>(j) <b>UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:</b> LEL 3.3%; UEL 19% (estimated)</li> </ul> | <ul style="list-style-type: none"> <li>(k) <b>VAPOR PRESSURE (mmHg @ 20°C):</b> - 59.5 hPa (44.6 mmHg) at 20 °C (68 °F) (Estimated)</li> <li>(l) <b>VAPOR DENSITY (AIR = 1):</b> 1.6 (Estimated).</li> <li>(m) <b>RELATIVE DENSITY (water=1):</b> 0.7-0.90 (ESTIMATED)</li> <li>(n) <b>SOLUBILITY:</b> Negligible.</li> <li>(o) <b>PARTITION COEFFICIENT: N-OCTANOL/WATER:</b> Not determined.</li> <li>(p) <b>AUTO-IGNITION TEMPERATURE:</b> 363 °C (685 °F) (Estimated)</li> <li>(q) <b>DECOMPOSITION TEMPERATURE:</b> Not determined.</li> <li>(r) <b>VISCOSITY:</b> Not determined.</li> <li>(s) <b>EXPLOSIVE PROPERTIES:</b> Not applicable.</li> <li>(t) <b>OXIDIZING PROPERTIES:</b> Not an oxidizer.</li> </ul> |
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### 9.2 OTHER INFORMATION

- **VOC (less water & exempt):** > 200 g/L
- **WEIGHT% VOC:** > 2%

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 REACTIVITY

- Not reactive under typical conditions of use or handling.

### 10.2 CHEMICAL STABILITY

- Normally stable under standard temperatures and pressures.

### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS

- This product is not self-reactive or air-reactive.
- This product will not undergo hazardous polymerization.

### 10.4 CONDITIONS TO AVOID

- Avoid contact with incompatible chemicals.

### 10.5 INCOMPATIBLE MATERIALS

- This product is not compatible with strong oxidizing agents, strong acids, or strong bases.

### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

- Products of thermal decomposition of this product can include carbon monoxide, carbon dioxide.

## SECTION 11: TOXICOLOGICAL INFORMATION

### • ACUTE TOXICITY:

- **TOXICOLOGY DATA:** The following toxicology data are available for this product.

#### ETHYL ALCHOL

LD<sub>50</sub> (oral, rat) = 7060 mg/kg  
LC<sub>50</sub> (inhalation, rat) = 20,000 mg/kg – 10 hours

#### IRON OXIDE YELLOW

LD<sub>50</sub> (Oral, Rat) > 5,000 mg/kg  
LC<sub>50</sub> (Inhalation, Rat) > 210 mg/m<sup>3</sup> – Two weeks

#### SODIUM TETRABORATE

Specific	Locus	Test-Drosophila
melanogaster-Oral	714 ppm	
Cytogenetic	Analysis-Drosophila	
melanogaster-Oral	714	ppm

#### SODIUM TETRABORATE (Continued)

Oral-Rat TDLo: 37 g/kg (multi):Reproductive effects  
Oral-Infant LDLo :1000 mg/kg  
Oral-Man LDLo: 709 mg/kg  
Oral-Rat LD50: 2660 mg/kg  
Oral-Mouse LD<sub>50</sub>: 2000 mg/kg  
Intraperitoneal-Mouse LD<sub>50</sub>: 2711 mg/kg  
Intravenous-Mouse LD<sub>50</sub>: 1320 mg/kg  
Subcutaneous-Rabbit, adult LDLo:150 mg/kg  
Oral-Guinea Pig, adult LD50:5330 mg/kg

- **REVIEW OF ACUTE SYMPTOMS AND EFFECTS:** See Section 2 (Hazards Information) and Section 4 (First-Aid Measures) for further details.

- **EYES:** Can cause mild eye irritation.
- **SKIN:** May cause mild skin irritation upon prolonged exposure.
- **INHALATION:** Mists and vapors of this product may cause mild nasal irritation, and may cause central nervous system effects.
- **INGESTION:** Although not anticipated to be a significant route of occupational over-exposures, ingestion of this product may cause gastrointestinal problems and central nervous system effects

### • CHRONIC TOXICITY:

- **CARCINOGENICITY STATUS:** Not established.
- **REPRODUCTIVE TOXICITY INFORMATION:** The components of this product are not reported to cause reproductive effects under typical circumstances of exposure associated with use of the product as directed. The following data are available, in terms or reproductive toxicity effects:
  - **SODIUM TETRABORATE:** Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Studies with the chemically related boric acid in the rat, mouse and rabbit, at high doses, demonstrate developmental effects on the fetus, including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. A recent epidemiological study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.

## SECTION 11: TOXICOLOGICAL INFORMATION (Continued)

- **MUTAGENIC EFFECTS:** The components of this product are not reported to cause reproductive effects under typical circumstances of exposure at the concentrations present in this product.
- **SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE:** Not applicable.
- **SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE:** Not applicable.
- **OTHER INFORMATION**
  - **TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** None known.
  - **ADDITIONAL TOXICOLOGY:** None known.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 TOXICITY

- Based on available data, this product can be harmful or fatal to contaminated terrestrial plants or animals.
- Based on available data, this product can be harmful or fatal to contaminated aquatic plants or animals.

### 12.2 PERSISTENCE AND DEGRADABILITY

- When released into the soil, the components of this product are expected to biodegrade, dissipate in soils via oxidation, or otherwise chemically degrade or photo-decompose via solar radiation.

### 12.3 BIOACCUMULATIVE POTENTIAL

- The components of this product are not anticipated to bioaccumulate in any significant quantities.

### 12.4 MOBILITY IN SOIL

- It is to be expected this product will have small mobility in soil. Some of the components may get into the soil and, ultimately, the ground water.

## SECTION 13: DISPOSAL CONSIDERATION

### 13.1 WASTE TREATMENT METHODS

- **WASTE HANDLING RECOMMENDATIONS:** Prepare, transport, treat, store, and dispose of waste product according to all applicable local, U.S. State and U.S. Federal regulations, the applicable Canadian standards, or the appropriate standards of the nations of the European Community.
- **PRECIOUS METAL RECLAMATION:** When applicable and practical, users of the product may wish to utilize precious metal reclamation services for final disposition of wastes.

## SECTION 14: TRANSPORT INFORMATION

### 14.1 DANGEROUS GOODS BASIC DESCRIPTION AND OTHER TRANSPORT INFORMATION

- This material is not hazardous for shipment, per the Hazardous Materials Regulations or Dangerous Goods Codes. Please contact the manufacturer if there are questions pertinent to the shipment of this product.

### 14.2 ENVIRONMENTAL HAZARDS

- None described, as related to transportation.

### 14.3 SPECIAL PRECAUTIONS FOR USERS

- Not applicable.

### 14.4 TRANSPORT IN BULK

- Not applicable.

## SECTION 15: REGULATORY INFORMATION

### 15.1: SAFETY, HEALTH, AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE SUBSTANCE OR MIXTURE.

- **OTHER IMPORTANT U.S. REGULATIONS**

- **U.S. SARA THRESHOLD PLANNING QUANTITY:** Not applicable.
- **U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21):** ACUTE: Yes; CHRONIC: No; FIRE: Yes; REACTIVE: No; SUDDEN RELEASE: No
- **U.S. CERCLA REPORTABLE QUANTITY (RQ):** Not applicable.
- **U.S. TSCA INVENTORY STATUS:** All components of this product are listed on the TSCA Inventory.
- **CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) STATUS:** This product contains a trace amount of Methanol: WARNING – This product contains a chemical known to the state of California to cause birth defects and other reproductive harm..

- **INTERNATIONAL REGULATIONS**

- **CANADIAN DSL/NDSL INVENTORY STATUS:** The listed components of this product are on the DSL/NDSL Inventory.
- **CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:** The components of this product are not on the CEPA Priorities Substances Lists.

### 15.2: CHEMICAL SAFETY ASSESSMENT.

- No information available.

## SECTION 16: OTHER INFORMATION

### 16.1: INDICATION OF CHANGE.

- **CHANGE INDICATED:** Update per OSHA Hazard Communication Standard (29 CFR 1910.1200).
- **DATES OF PUBLICATION:** May 26, 2015
- **SUPERCEDES:** Not applicable.

### 16.2: KEY LITERATURE REFERENCES AND SOURCES FOR DATA

- SAFETY DATA SHEETS FOR COMPONENT PRODUCTS.
- Regulations (EC) No 1907/2006, 1272/2008 & 453/2010 of the European Parliament and of the Council.
- Federal OSHA Hazard Communication Standard: 29 CFR 1910.1200
- SAX – Dangerous Properties of Industrial Materials
- RTECS – Registry of Effects of Toxic Chemicals
- ESIS -European Chemical Substances Information System <http://esis.jrc.ec.europa.eu/>

### 16.3: CLASSIFICATION AND PROCEDURE USED TO DERIVE THE CLASSIFICATIONS FOR MIXTURES

- **CLASSIFICATION:** Section 2 (Hazards Information) provides all relevant classification information used for this product. The assignments were based on data available for the component products, calculations, expert judgment, and weight of evidence.

## SECTION 16: OTHER INFORMATION (Continued)

### 16.4: ABBREVIATIONS AND ACRONYMS.

**ALL SECTIONS:** OSHA: U.S. Federal Occupational Safety and Health Administration. WHMIS: Canadian Workplace Hazardous Materials Standard. GHS: Globally Harmonized System of Classification of Chemical Substances. REACH: European Union regulation, Registration, Evaluation, Authorization and Restriction of Chemical substances.

**SECTION 2:** CAS Number: Chemical Abstract Service Number, which is used by the American chemical Society to uniquely identify a chemical. EINECS: European Inventory of Existing Commercial Substances.

**SECTION 3:** HAZARDOUS MATERIALS IDENTIFICATION SYSTEM RATING: This is a rating system used by industry to summarize physical and health hazards to chemical users and was originally developed by the National Paint and Coating Association. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.

**SECTION 5:** NFPA: National Fire Protection Association. NFPA FLAMMABILITY CLASSIFICATION: The NFPA uses the flash point (F.I.P.) and boiling point (BP) to classify flammable or combustible liquids. Class IA: F.I.P. below 73°F and BP below 100°F. Class IB: F.I.P. below 73°F and BP at or above 100°F. Class IC: F.I.P. at or above 73°F and BP at or above 100°F. Class II: F.I.P. at or above 100°F and below 140°F. Class IIIA: F.I.P. at or above 140°F and below 200°F. Class IIIB: F.I.P. at or above 200°F. NFPA HAZARDOUS MATERIALS RATING: This is a rating system used to summarize physical and health hazards to firefighters. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.

**SECTION 8:** NE: Not established. ACGIH: American Conference of Government Industrial Hygienists; TWA: Time-Weighted Average (over an 8-hour work day); STEL: Short-Term Exposure Limit (15 minute average, no more than 4-times daily and each exposure separated by one-hour minimally); C: Ceiling Limit (concentration not to be exceeded in a work environment). PEL: Permissible Exposure Limit. NIOSH: National Institute of Occupational Safety and Health; REL: Recommended Exposure Limit; IDLH: Immediately Dangerous to Life and Health Concentrations. *Note*: In July 1992, a court ruling vacated the more protective PELs set by OSHA in 1989. Because OSHA may enforce the more protective levels under the "general duty clause", both the current and vacated levels are presented in this document. ppm: Parts per Million. mg/m<sup>3</sup>: Milligrams per cubic meter. mppcf: Millions of Particles per Cubic Foot. BEI: Biological Exposure Limit. EL: Exposure Limit ( United

Kingdom). Federal Republic of Germany (DFG) Maximum Concentration Values in the Workplace (MAKs)

**SECTION 9:** pH: Scale (0 to 14) used to rate the acidity or alkalinity of aqueous solutions. For example, a pH value of 0 indicates a strongly acidic solution, pH of 7 indicates a neutral solution, and a pH value of 14 indicates an extremely basic solution. FLASH POINT: Temperature at which a liquid generates enough flammable vapors so that ignition may occur. AUTOIGNITION TEMPERATURE: Temperature at which spontaneous ignition occurs. LOWER EXPLOSIVE LIMIT (LEL): The minimal concentration of flammable vapors in air which will sustain ignition. UPPER EXPLOSIVE LIMIT (UEL): The maximum concentration of flammable vapors in air which will sustain ignition. ≈: Approximately symbol.

**SECTION 11:** CARCINOGENICITY STATUS: NTP: National Toxicology Program. IARC: International Agency for Research on Cancer. REPRODUCTIVE TOXICITY INFORMATION: Mutagen: Substance capable of causing chromosomal damage to cells. Embryotoxin: Substance capable of damaging the developing embryo in an overexposed female. Teratogen: Substance capable of damaging the developing fetus in an overexposed female. Reproductive toxin: Substance capable of adversely affecting male or female reproductive organs or functions. TOXICOLOGY DATA: LD<sub>50</sub> or LC<sub>50</sub>: The Lethal Dose or Lethal Concentration of a substance which will be fatal to a given percentage (xx) of exposed test animals by the designate route of administration. This value is used to access the toxicity of chemical substances to humans. TD<sub>50</sub> or TC<sub>50</sub>: The Toxic Dose or Toxic Concentration of a substance which will cause an adverse effect to a given percentage (xx) of exposed test animals by the designate route of administration.

**SECTION 12:** T<sub>lm</sub> – Median Tolerance Limit

**SECTION 13:** RCRA: Resource Conservation and Recovery Act. The regulations promulgated under this act under Act are found in 40 CFR, Sections 260 ff, and define the requirements of hazardous waste generation, transport, treatment, storage, and disposal. EPA RCRA Waste Codes: Defined in 40 CFR Section 261.

**SECTION 15:** CERCLA: Comprehensive Environmental Response Compensation and Liability Act (a.k.a. "Superfund") and SARA: (Superfund Amendment and Reauthorization Act). The regulations promulgated under this Act are located under 40 CFR 300 ff. and provide "community right-to-know" requirements. DSL/NDSL: Canadian Domestic Substances and Non-Domestic Substances Lists.