

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 NICKEL PICKLE**
- SYNONYMS: Not Applicable
- CHEMICAL NAME/CLASS: Chromate Solution
- PRODUCT CODE: 45.140 (10 oz); 45.141 (1/2 lb); 45.142 (40 lb)

1.2 RELEVANT IDENTIFIED USES OF THE MIXTURE OR USES ADVISED AGAINST

- IDENTIFIED USE: Metal Treatment.
- USES ADVISED AGAINST: None Specified

Nickle Pickle
717040
717043
717044

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. 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)	Acute toxicity, Oral (Category 3); Acute toxicity, Inhalation (Category 2); Acute toxicity, Dermal (Category 1); Skin corrosion (Category 1B); Respiratory sensitization (Category 1); Germ cell mutagenicity (Category 1B); Carcinogenicity (Category 1B); Reproductive toxicity (Category 1B) Specific target organ toxicity - repeated exposure, Inhalation (Category 1)

2.2 LABEL ELEMENTS:

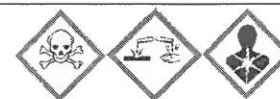
OSHA/CLP – BASED ON GLOBALLY HARMONIZED SYSTEM

Symbol: To the right.

Signal Word: Danger.

Hazard statement(s)

Fatal in contact with skin or if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure if inhaled.



SECTION 2: HAZARDS IDENTIFICATION (Continued)

Precautionary Statements

Prevention

Keep out of reach of children. Obtain special instructions before use. Do not handle until all safety precautions have been read and. Do not breathe mist/ vapors/ spray. Do not get in eyes, on skin, or on clothing. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/ protective clothing/ eye protection/ face protection. Wear respiratory protection.

Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. IF exposed or concerned: Get medical advice/ attention. Take off contaminated clothing and wash before reuse.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/ international regulations.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM

Health	3*	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. D – A Face shield should be added when splashes/sprays could occur. H – A respirator should be added if airborne exposures could occur.
Flammability	0	
Physical Hazard	0	
Protective Equipment	B/C/D/H	

CANADIAN REGULATORY STATUS

- This product is classified as hazardous under Canadian Controlled Products regulations (SOR-88-66). It is classified – D1A: Very Toxic Material; D2-A: Materials Causing Other Toxic Effects/Very Toxic Material; E = Corrosive 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)
Potassium Dichromate	7778-50-9	Oxidizing solids (Category 2); Acute toxicity, Oral (Category 3); Acute toxicity, Inhalation (Category 2); Acute toxicity, Dermal (Category 1); Skin corrosion (Category 1B); Serious eye damage (Category 1); Respiratory sensitization (Category 1); Carcinogenicity (Category 1B) Reproductive toxicity (Category 1B); Specific target organ toxicity - repeated exposure, Inhalation (Category 1); Acute aquatic toxicity (Category 1); Chronic aquatic toxicity (Category 1)	Proprietary ¹
Sodium Bisulfate	7681-38-1	Serious eye damage (Category 1)	Proprietary
The remaining components of this product are not classified as hazardous in their existing concentrations			Balance

¹ 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

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 promptly.

Skin Contact

Flush area with warm, running water for 14 minutes. Seek medical attention promptly.

Inhalation

Obtain fresh air. Seek medical attention promptly.

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.

4.2 MOST IMPORTANT ACUTE AND CHRONIC EXPOSURE SYMPTOMS

• ACUTE HEALTH EFFECTS:

AREA EXPOSED

Eye Contact

Causes serious eye irritation and possible corrosive damage.

Skin Contact

Causes skin irritation and possible corrosive damage.

Inhalation

Causes respiratory tract irritation and possible respiratory sensitization. May include coughing, pain, and damage to tissues of respiratory system. Asthma and allergic-like reactions are also possible.

Ingestion

May cause gastrointestinal system irritation; symptoms may include pain, diarrhea, nausea and vomiting if large volumes are ingested. Corrosive damage could occur, and ingestion of large volumes can be fatal.

- **CHRONIC HEALTH EFFECTS:** Potassium dichromate is a carcinogen and reproductive toxin. Chronic exposure can also adversely impact target organs.
- **TARGET ORGANS:** Blood, kidneys, liver, lungs, respiratory system, gastrointestinal system, teeth, eyes, skin.

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. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.
- **MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** Conditions related to the target organs may be aggravated by over-exposures to this product.

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:** Not flammable. Pure Potassium Dichromate is an oxidizer; avoid situations where this solution can come in contact with combustibles.
- **UNUSUAL HAZARDS IN FIRE SITUATIONS:** When involved in a fire, this material may produce irritating vapors and toxic gases containing chromium compounds.
 - Sensitivity to Mechanical Impact: Not sensitive.
 - Explosion Sensitivity to Static Discharge: Not sensitive.



SECTION 5: FIREFIGHTING MEASURES (Continued)

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.). 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.

In the unlikely event of a significant release of the **PRODUCT AS SOLD**, and there is no other hazardous condition in the area, the use of an air-purifying respirator with acid gas cartridge/high efficiency particulate filter, face-shield, safety glasses, and double gloves (e.g. nitrile over latex gloves), and body protection is recommended if splashes/sprays/mists can be generated during clean-up or the concentration of vapors is high. Use Self-Contained Breathing Apparatus if concentration of oxygen is less than 19.5%, is unknown, or there are high concentrations of vapors.

- **RESPONSE PROCEDURES FOR ANY RELEASE:** Absorb spilled liquid with polypads or other suitable absorbent materials. Rinse contaminated items and area thoroughly.

6.2 ENVIRONMENTAL PRECAUTIONS

- Avoid response actions that can cause a release of a significant amount of the substance into the environment.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

- **SPILL RESPONSE EQUIPMENT:** Polypads or other absorbent material; neutralizer; pH paper.

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. In some circumstances, respiratory protection may be required. 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.

SECTION 7: HANDLING AND STORAGE (Continued)

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

- **STORAGE RECOMMENDATIONS:** 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. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Empty containers may contain residual liquid; therefore, empty containers should be handled with care.

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
Potassium Dichromate (as Chromium compounds, inorganic, water soluble)	TWA: 0.05 mg/m ³ (As Cr)	.005 mg/m ³	.001 mg/m ³	NE

- **BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS:** The following Biological Exposure Indices are applicable to the components of this product:
 - **Potassium Dichromate:** Total chromium in urine (end of shift/end of work week) = 25 µg/L; Total chromium in urine (increase during shift) – 10 µg/L.

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:** Use NIOSH approved respirators if ventilation is inadequate to control mists or sprays. For situations in which airborne exposures could occur or if splashes, sprays, or mists could be generated, wear an air-purifying respirator with an acid gas/high efficiency particulate 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. A face-shield should be added if splashes, sprays, or mists can be generated. 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:

- (a) **APPEARANCE:** Green liquid.
- (b) **ODOR:** Alcohol odor.
- (c) **ODOR THRESHOLD:** Not determined.
- (d) **pH:** < 2 (Estimated)
- (e) **MELTING POINT/FREEZING POINT:** Not determined.
- (f) **INITIAL BOILING POINT AND BOILING RANGE:** Not determined.
- (g) **FLASH POINT:** 12°C (53°F) (Estimated)
- (h) **EVAPORATION RATE (nBuAc=1):** Not determined.
- (i) **FLAMMABILITY:** Not flammable.
- (j) **UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:** Not determined.
- (k) **VAPOR PRESSURE (mmHg @ 20°C)** Not determined.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (Continued)

- (l) **VAPOR DENSITY (AIR = 1):** Not determined.
(m) **RELATIVE DENSITY (water=1)** Not determined.
(n) **SOLUBILITY:** Soluble.
(o) **PARTITION COEFFICIENT: N-OCTANOL/WATER:** Not determined.
- (p) **AUTO-IGNITION TEMPERATURE:** Not determined.
(q) **DECOMPOSITION TEMPERATURE:** Not determined.
(r) **VISCOSITY:** Not determined
(s) **EXPLOSIVE PROPERTIES:** Not applicable.
(t) **OXIDIZING PROPERTIES:** PURE Potassium Dichromate is known to be an oxidizer.

9.2 OTHER INFORMATION

- **VOC (less water & exempt):** Not applicable.
- **WEIGHT% VOC:** Not applicable.

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 combustible and flammable material, organic compounds, strong acids, or strong bases.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

- Products of thermal decomposition of this product can include potassium, sodium, and chromium compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

• **ACUTE TOXICITY:**

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

○

POTASSIUM DICHROMATE

LD50 Oral - Rat - male - 168 mg/kg
LD50 Oral - Rat - female - 90.5 mg/kg
LC50 Inhalation - Rat - female - 4 h - 0.088 mg/l
LD50 Dermal - Rabbit - 14 mg/kg

SODIUM BISULFATE

LD50 Oral - Rat - 2000 mg/kg

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

Eye Contact	Causes serious eye irritation and possible corrosive damage.
Skin Contact	Causes skin irritation and possible corrosive damage.
Inhalation	Causes respiratory tract irritation and possible respiratory sensitization. May include coughing, pain, and damage to tissues of respiratory system. Asthma and allergic-like reactions are also possible.
Ingestion	May cause gastrointestinal system irritation; symptoms may include pain, diarrhea, nausea and vomiting if large volumes are ingested. Corrosive damage could occur, and ingestion of large volumes can be fatal.

SECTION 11: TOXICOLOGICAL INFORMATION (Continued)

• CHRONIC TOXICITY:

- **CARCINOGENICITY STATUS:** The following status has been established for the components of this product.

CHEMICAL	IARC	NTP	NIOSH	OSHA	OTHER
Potassium Dichromate (as Chromium VI, inorganic, water soluble).	IARC-1 Carc. to humans	Known to be Human Carc.	Carc.	29CFR1910 .1026	EPA-A: Known to be a Carcinogen TLV-A1: Known Carcinogen

- **REPRODUCTIVE TOXICITY INFORMATION:** Potassium dichromate, a component of this product, is a presumed reproductive toxin.
 - **MUTAGENIC EFFECTS:** Potassium dichromate, a component of this product, is a presumed germ cell mutagen.
 - **SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE:** Not applicable.
 - **SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE:** Blood, kidneys, liver, lungs, respiratory system, gastrointestinal system, teeth, eyes, and skin may be adversely effected by prolonged/repeated exposures to this product..
- **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.

SECTION 14: TRANSPORT INFORMATION (Continued)

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: Yes; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No
- **U.S. CERCLA REPORTABLE QUANTITY (RQ):** Potassium Dichromate = 10 lb.
- **U.S. SARA 313:** Potassium Dichromate.
- **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 Potassium Dichromate: WARNING – This product contains a chemical known to the state of California to cause cancer, 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:** Hazard Communication Standard GHS compliance requirements.
- **ORIGINAL DATE OF ISSUE:** May 26, 2015
- **DATES OF UPDATES:** New.

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.P.) and boiling point (BP) to classify flammable or combustible liquids. Class IA: F.P. below 73°F and BP below 100°F. Class IB: F.P. below 73°F and BP at or above 100°F. Class IC: :F.P. at or above 73°F and BP at or above 100°F. Class II: : F.P. at or above 100°F and below 140°F. Class IIIA: F.P. at or above 140°F and below 200°F. Class IIIB: F.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/m³: 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_{xx} or LC_{xx}: 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_{xx} or TC_{xx}: 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: TLm – 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/NDL: Canadian Domestic Substances and Non-Domestic Substances Lists.