SAFETY DATA SHEET

Prepared to U.S. OSHA and Canadian WHMIS Standards

DATE OF REVISION: January 5, 2022

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING

IDENTIFICATION of the SUBSTANCE or PREPARATION:

TRADE NAME:	**NOVUS PLASTIC POLISH #3**
SYNONYMS:	(Heavy Scratch Remover, NOVUS No 3)
PRODUCT CODE:	7080, 7081, 7082, 7085, 7110, 7128, 7133, 7301, 7304
RELEVANT USES of the SUBSTANCE:	Heavy Scratch Remover for Plastic Surfaces
USES ADVISED AGAINST:	Other than Relevant Use, Including Glass Polishing

COMPANY/UNDERTAKING IDENTIFICATION:

U.S. DISTRIBUTOR'S NAME:	**NOVUS 2 LLC**
ADDRESS:	650 Pelham Boulevard, Suite 100 St Paul, MN 55114
CANADIAN DISTRIBUTOR'S NAME:	**FIX AUTO**
ADDRESS:	99 Émilien-Marcoux Suite 101 Blainville, Québec J7C 0B4, Canada
EMERGENCY PHONE (medical):	1-800-420-8036
EMAIL ADDRESS FOR SDS INFORMATION:	msds-info@novusglass.com

2. HAZARD IDENTIFICATION

OSHA HAZARD COMMUNICATION (GLOBAL HARMONIZATION) AND CANADIAN WHMIS LABELING AND CLASSIFICATION:

This product has been classified per OSHA's Hazard Communication Standard (29CFR §1910.1200), and Canadian WHMIS (HPR). This is a self-classification.

GHS CLASSIFICATION:

Eye Irritation Category 2A

GHS LABEL ELEMENTS:

Signal Word: Warning

Hazard Statements:
H319: Causes serious eye irritation.

Precautionary Statements:

Prevention:
P264: Wash thoroughly after handling.
P280: Wear protective gloves and eye protection.

Response:
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313: If eye irritation persists: Get medical advice/attention.

Storage:
None.

Disposal:
None.

2. HAZARD IDENTIFICATION

Hazard Symbols/Pictograms: GHS07

OTHER HAZARDS NOT LEADING TO CLASSIFICATION: None known.

PERCENTAGE OF INGREDIENTS LACKING ACUTE TOXICITY DATA: 0

3. COMPOSITION and INFORMATION ON INGREDIENTS

SUBSTANCE or MIXTURE: Mixture

CHEMICAL NAME/CLASS: Organic Liquid/Aluminum Oxide/Water Mixture

CHEMICAL NAME	CAS #	EINECS or ELINCS #	% w/w	**GHS Classification Hazard Statements/Pictograms**
Petroleum distillates, hydrotreated light	64742-47-8	265-149-8	0.1-0.4%	Classification: Aspiration Tox. Cat. 1 Hazard Statement(s): H304 Hazard Pictogram: GHS08
Amides, C16-18 and C18 unsaturated, N,N-bis(hydroxyethyl)	68603-38-3	271-653-9	0.01-0.1%	Classification: Serious Eye Damage, Cat. 1 Hazard Statement(s): H318 Hazard Pictogram: GHS05
Copolymer	Proprietary	None	0.75-1.78%	Classification: None
Dipropylene Glycol Methyl Ether	34590-94-8	252-104-2	3-7%	Classification: None
Calcined Kaolin Clay	66402-68-4	266-340-9	3-7%	Classification: None
Aluminum Oxide	1344-28-1	215-691-6	7-13%	Classification: None
Water and other components. Each of the other components is present in less than 1 percent concentration (or 0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).			Balance	

4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES: Contaminated individuals must be taken for medical attention if any adverse effects occur. Take a copy of label and SDS to health professional with victim.

SKIN EXPOSURE: If this product contaminates the skin, begin decontamination with running water. Minimum flushing is for 20 minutes. The contaminated individual must seek medical attention if any adverse effects occur after flushing.

EYE EXPOSURE: If this product enters the eyes, open contaminated individual's eyes while under gently running water. Use sufficient force to open eyelids. Have contaminated individual "roll" eyes. Minimum flushing is for 20 minutes. Contaminated individual must seek medical attention if adverse effect continues after flushing.

INHALATION: If mists or sprays of this product are inhaled, remove victim to fresh air. The contaminated individual must seek medical attention if any adverse effects occur.

INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If victim is convulsing, maintain an open airway and obtain immediate medical attention.

4. FIRST-AID MEASURES, continued

MOST IMPORTANT SYMPTOMS/EFFECTS (ACUTE & CHRONIC):

INHALATION: If mists or sprays of this product are inhaled, they may mildly irritate the nose and other tissues of the upper respiratory system. Symptoms are generally alleviated upon breathing fresh air.

EYE OR SKIN CONTACT: Depending on the duration and concentration of exposure, eye contact may cause tearing and redness. Skin contact may cause mild redness, discomfort, and irritation. Symptoms are generally alleviated upon rinsing. Repeated skin contact may cause dermatitis (dry, red skin).

INGESTION: Ingestion is not anticipated to be a likely route of exposure to this product. If this material is swallowed, it may cause headache, nausea, and vomiting.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Dermatitis and other pre-existing skin disorders may be aggravated by prolonged overexposure to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

FIRE EXTINGUISHING MEDIA: Use extinguishing material suitable to the surrounding fire, including halon, carbon dioxide, dry chemical and ABC class.

UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE: When involved in a fire, this material may decompose and produce irritating vapors and toxic gases (including silicon, aluminum and carbon oxides).

Explosion Sensitivity to Mechanical Impact: Not applicable.
Explosion Sensitivity to Static Discharge: Not applicable.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Chemical resistant clothing may be necessary. Move containers from fire area if it can be done without risk to personnel. Water spray can be used to cool fire-exposed containers. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. Rinse contaminated equipment thoroughly with soapy water before returning such equipment to service.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: Proper protective equipment should be used. In the event of a spill, clear the area and protect people.

PERSONAL PROTECTIVE EQUIPMENT: Use proper protective equipment and non-sparking tools and equipment.

Small Spills: Wear rubber gloves, splash goggles, and appropriate body protection.
Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit.

METHODS FOR CLEAN-UP AND CONTAINMENT: Avoid allowing contact with water on spilled substance or inside containers.

Small Spills: Absorb spilled material with polypads or other suitable, non-reacting sorbent, avoiding generation of aerosols, wearing gloves, goggles and apron. Place spilled material in appropriate container for disposal, sealing tightly. Remove all residue before decontamination of spill area.

Large Spills: Access to the spill area should be restricted. Spread should be limited by diking spill area. Absorb spilled liquid with polypads or other suitable absorbent materials.

All Spills: Place all spill residue in a double plastic bag or other containment and seal. Decontaminate the area thoroughly. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. Run-off water may be contaminated by other materials and should be contained to prevent possible environmental damage.

REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.

7. HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING: All employees who handle this material should be trained to handle it safely. Keep container tightly closed when not in use. As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing vapors or mists generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately.

CONDITIONS FOR SAFE STORAGE: Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged. Empty containers may contain residual product; therefore, empty containers should be handled with care.

SPECIFIC END USE(S): This product is used for cleaning and restoring plastic surfaces. Follow all industry standards for use of this product.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS:

OCCUPATIONAL/WORKPLACE EXPOSURE LIMITS/GUIDELINES:

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR							
		ACGIH-TLVS		OSHA-PELS		NIOSH-RELS		NIOSH	OTHER
		TWA ppm	STEL ppm	TWA ppm	STEL ppm	TWA ppm	STEL ppm	IDLH ppm	mg/m^3
Aluminum Oxide	1344-28-1	10 mg/m^3	NE	15 mg/m^3 (total dust); 5 mg/m^3 (respirable fraction) 10 mg/m^3 (total dust) [Vacated 1989 PEL]	NE	NE	NE	NE	Canada (SK) OEL TWA=10mg/m^3, STEL=20mg/m^3 Other provinces: use ACGIH TLVs DFG MAK (Germany): TWA = 1.5 mg/m^3 (fume) [respirable fraction] PEAK = 8•MAK 15 min, average value, 1-hr interval (fume) Carcinogen: MAK-2 (fibrous dust), TLV-A4
Calcined Kaolin Clay	66402-68-4	NE	NE	NE	NE	NE	NE	NE	NE
Dipropylene Glycol Methyl Ether	34590-94-8	100 (skin)	150 (skin)	100 (skin)	150 (skin)	100	150	600	Canada OEL: use ACGIH TLVs DFG MAK: TWA = 50 PEAK = 1•MAK 30 min, average value
Petroleum distillates, hydrotreated light	64742-47-8	NE	NE	NE	NE	NE	NE	NE	DFG MAK (Germany): TWA = 50 ppm (skin); STEL = 100ppm (15 minutes)
Amides, C16-18 and C18 unsaturated, N,N-bis(hydroxyethyl)	68603-38-3	NE	NE	NE	NE	NE	NE	NE	NE

NE = Not Established.

CONTROL PARAMETERS:

BIOLOGICAL EXPOSURES INDICES (BEIs): Currently, there are no ACGIH BEIs determined for any component of this product.

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Use a mechanical fan or vent area to outside. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits provided in this section, if applicable. Use a non-sparking, grounded, explosion-proof ventilation system separate from other exhaust ventilation systems. Exhaust system in manner consistent with prevention of release to atmosphere. An eyewash and safety shower should be readily accessible.

PROTECTIVE EQUIPMENT: *The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including* U.S. Federal OSHA Respiratory Protection (29 CFR 1910.134), OSHA Eye Protection 29 CFR 1910.133, OSHA Hard Protection 29 CFR 1910.138, OSHA Foot Protection 29 CFR 1910.136 and OSHA Body Protection 29 CFR1910.132)*, and equivalent standards of Canada (including CSA Respiratory Standard Z94.4-02,* Z94.3-M1982, *Industrial Eye and Face Protectors and* CSA Standard Z195-02, *Protective Footwear). Please reference applicable regulations and standards for relevant details.*

8. EXPOSURE CONTROLS - PERSONAL PROTECTION, continued

RESPIRATORY PROTECTION: Maintain the Oxygen level above 19.5% in the workplace and exposure limits below levels given earlier in this section, if applicable. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard. If necessary, use only respiratory protection authorized in appropriate regulations to assist in equipment selection.

EYE PROTECTION: Use approved safety goggles or safety glasses. If necessary, refer to appropriate regulations to assist in equipment selection.

HAND PROTECTION: Wear butyl rubber, Teflon™, Barricade™, Chemrel™, nitrile or similar gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this SDS. If necessary, refer to applicable regulations and standards.

BODY PROTECTION: Use body protection appropriate for task. If necessary, refer to appropriate regulations to assist in equipment selection.

HYGIENE: See Section 7.

9. PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL STATE: Viscous liquid.

COLOR: Opaque, white.

MOLECULAR FORMULA: Mixture.

MOLECULAR WEIGHT: Mixture.

ODOR: Lemon.

ODOR THRESHOLD: Not established.

pH: 9-10.

MELTING/FREEZING POINT: Not established.

BOILING POINT: Not established.

FLASH POINT (Pensky-Martens Closed Tester): >93.3°C (200°F).

EVAPORATION RATE (nBuAc = 1): Not established; based on ingredients the comparative evaporation rate is expected to be <1.

FLAMMABLE LIMITS (in air by volume, %): Not established.

VAPOR PRESSURE, mm Hg @ 50°C: Not established.

RELATIVE VAPOR DENSITY (air = 1): Not established; based on ingredients the relative vapor density is expected to be >1.

SPECIFIC GRAVITY (23°C, water = 1): 1.188

SOLUBILITY: Soluble in water, except for inorganic constituents.

COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not established.

AUTOIGNITION TEMPERATURE: Not established.

VISCOSITY (cP): 50000-100000

VOLATILE ORGANIC COMPOUND CONTENT: 64g/L

10. STABILITY and REACTIVITY

REACTIVITY: Not considered a reactivity hazard.

CHEMICAL STABILITY: Stable under typical, environmental conditions in a workplace in the absence of contaminates.

DECOMPOSITION PRODUCTS: *Combustion:* Silicon, aluminum and carbon oxides. *Hydrolysis:* None known.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong oxidizers, water-reactive materials.

POSSIBILITY OF HAZARDOUS REACTIONS: None known.

CONDITIONS TO AVOID: Exposure to incompatible chemicals.

11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY: Not Classified.

Data for Dipropylene Glycol Methyl Ether:
LD_{50} (Oral-Rat) 5400 μL/kg
LD_{50} (Oral-Rat) 5.5 mL/kg
LD_{50} (Skin-Rabbit) 10 mL/kg
TCLo (Inhalation-Mammal-Species Unspecified) 3000 mg/m^3: Behavioral: general anesthetic

Data for Aluminum Oxide:
LD_{50} (Intraperitoneal-Mouse) > 3600 mg/kg

SKIN CORROSION/IRRITATION: Not Classified.

Source Data: Testing of Product

SERIOUS EYE DAMAGE/IRRITATION: Eye Irritation, Category 2A

Source Data: Testing of Product

Data for Dipropylene Glycol Methyl Ether:
Standard Draize Test (Eye-Human) 8 mg: Mild
Standard Draize Test (Eye-Rabbit) 500 mg/24 hours: Mild
Open Irritation Test(Eye-Rabbit) 500 mg: Mild

RESPIRATORY or SKIN SENSITIZATION: Not Classified.

GERM CELL MUTAGENICITY: Not Classified.

CARCINOGENICITY: Not Classified.

ALUMINUM OXIDE: MAK-2 Compound (Substances which are considered to be carcinogenic) **Fibrous forms only**; ACGIH-TLV-A4 Compound (Not Classifiable as a Human Carcinogen).

REPRODUCTIVE TOXICITY: Not Classified.

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE): Not Classified.

11. TOXICOLOGICAL INFORMATION, continued

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): Not Classified.

Data for Dipropylene Glycol Methyl Ether:
TDLo (Skin-Rabbit) 650 mL/kg/13 weeks-intermittent: Behavioral: general anesthetic; Nutritional and Gross Metabolic: weight loss or decreased weight gain; Related to Chronic Data: death
TCLo (Inhalation-Rat) 2000 mg/m^3/7 hours/26 weeks-intermittent: Brain and Coverings: other degenerative changes; Liver: other changes; Nutritional and Gross Metabolic: weight loss or decreased weight gain
TCLo (Inhalation-Guinea Pig) 2000 mg/m^3/7 hours/26 weeks-intermittent: Brain and Coverings: other degenerative changes; Liver: other changes; Nutritional and Gross Metabolic: weight loss or decreased weight gain
TCLo (Inhalation-Rabbit) 2000 mg/m^3/7 hours/26 weeks-intermittent: Brain and Coverings: other degenerative changes; Liver: other changes; Nutritional and Gross Metabolic: weight loss or decreased weight gain
TCLo (Inhalation-Monkey) 2000 mg/m^3/7 hours/26 weeks-intermittent: Brain and Coverings: other degenerative changes; Liver: other changes; Nutritional and Gross Metabolic: weight loss or decreased weight gain

Data for Aluminum Oxide:
TCLo (Inhalation-Rabbit) 200 mg/m^3/5 hours/28 weeks-intermittent: Lungs, Thorax, or Respiration: structural or functional change in trachea or bronchi, chronic pulmonary edema; Related to Chronic Data: death
TDLo (Intrapleural-Rat) 90 mg/kg: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration: tumors
TDLo (Implant-Rat) 200 mg/kg: Tumorigenic: neoplastic by RTECS criteria, tumors at site of application

ASPIRATION HAZARD: Not Classified.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: This product has not been tested for ecotoxicity.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability. Environmental data for components of this product are available as follows:

DIPROPYLENE GLYCOL METHYL ETHER:
Solubility: Miscible with water.
Biodegradation: Biological Oxygen Demand values after five, ten, or thirty days for Dipropylene Glycol Monomethyl Ether were reported as 0, 0, and 31%, respectively (expressed as percentage of theoretical oxygen demand). The type of inoculum, however, was not specified. This delayed oxygen demand suggests that an acclimation period is required in order for a Dipropylene Glycol Monomethyl Ether -degrading population to become established. Thus, intermittent releases of Dipropylene Glycol Monomethyl Ether to the environment or to wastewater treatment plants may also require an acclimation period before significant amounts of Dipropylene Glycol Monomethyl Ether are removed. No information was found on the biodegradation of Dipropylene Glycol Monomethyl Ether in soil or natural waters.
Bioconcentration: Because Dipropylene Glycol Monomethyl Ether is infinitely soluble in water, it will not be expected to bioconcentrate in aquatic organisms.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.

MOBILITY: This product has not been tested for mobility in soil.

OTHER ADVERSE EFFECTS: Components of this product are not listed as having ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste per regulations of the area in which the waste is generated and/or disposed of. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Shipment of wastes must be done with appropriately permitted and registered transporters.

DISPOSAL CONTAINERS: Waste materials must be placed in and shipped in impermeable containers (such as poly or metal waste pails or drums). Permeable cardboard containers are not appropriate and should not be used. Ensure that any required marking or labeling of the containers be done to all applicable regulations.

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING: Wear proper protective equipment when handling waste materials.

U.S. EPA WASTE NUMBER: Not applicable.

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS: This product is NOT classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is NOT considered as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION DESIGNATION: This material is NOT considered as dangerous goods, per rules of IATA.

INTERNATIONAL MARITIME ORGANIZATION (IMO): This product is NOT considered as dangerous goods, per rules of the IMO.

TRANSPORT IN BULK ACCORDING TO THE IBC CODE: Not applicable.

ENVIRONMENTAL HAZARDS: This product does not meet the criteria of environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN); components are not specifically listed in Annex III under MARPOL 73/78.

15. REGULATORY INFORMATION

U.S. STATE AND FEDERAL REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

U.S. TSCA INVENTORY STATUS: The components of this product listed by CAS # in Section 3 (Composition and Information on Ingredients) are included on the TSCA "Active" Inventory as published February 2019 per the requirements of the Lautenberg Chemical Safety for the 21st Century Act of 2016.

OTHER U.S. FEDERAL REGULATIONS: Not applicable.

STATE REGULATIONS:

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): No component of this product is on the California Proposition 65 lists.

ADDITIONAL CANADIAN REGULATIONS:

CANADIAN DSL INVENTORY: The components of this product listed by CAS # in Section 3 (Composition and Information on Ingredients) are listed on the DSL Inventory.

CANADIAN ENVIRONMENTAL PROTECTION AGENCY (CEPA) PRIORITY SUBSTANCES LISTS: The Aluminum Oxide component is on the National Pollutant Release Inventory (NPRI) for 2006, but only in fibrous form.

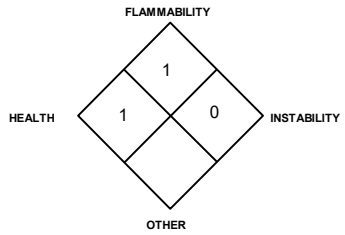
16. OTHER INFORMATION

PREPARED BY: CHEMICAL SAFETY ASSOCIATES, Inc. • PO Box 1961, Hilo, HI 96721 (800) 969-4846
NOVUS 2 LLC CHEMISTRY DEPARTMENT • 650 Pelham Boulevard, Suite 100 • St Paul, MN 55114 (952) 944-8000

REVISION DETAILS:

April 2012: Review and update entire SDS to comply with EU CLP 1272: 2008 and GHS.
October 2012: Review and update to comply with OSHA's revised Hazard Communication Standard.
April 2017: Review and update to particulars of Canada's HPR.
June 2017: Review and update Canadian distributor, formatting.
August 2018: Added VOC Content information to Section 9.
April 2019: Added "TSCA Active" list status to Section 15. Updated Company name.
November 2020: Update Sections 3 and 8.
January 2022: Update SDS with new hazard classification.

NFPA RATING



Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate
3 = Serious **4** = Severe

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH HAZARD	(BLUE)	1
FLAMMABILITY HAZARD	(RED)	1
PHYSICAL HAZARD	(YELLOW)	0

PROTECTIVE EQUIPMENT

EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		SEE SECTION 8

For Routine Industrial Use and Handling Applications

Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate
3 = Serious **4** = Severe * = Chronic hazard

DEFINITION OF TERMS

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

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

EXPOSURE LIMITS IN AIR:

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAK Pregnancy Risk Group Classification: Group A: A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. **Group B:** Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. **Group C:** There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. **Group D:** Classification in one of the groups A-C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.

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.

LOQ: Limit of Quantitation.

MAK: Federal Republic of Germany Maximum Concentration Values in the workplace.

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change.

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH's Recommended Exposure Limits.

PEL-Permissible Exposure Limit: OSHA's Permissible Exposure Limits. 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.

SKIN: Used when a there is a danger of cutaneous absorption.

STEL-Short Term Exposure Limit: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.**TLV-Threshold Limit Value:** An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

TWA-Time Weighted Average: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS: This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards

HEALTH HAZARD:

0 (Minimal Hazard: No significant health risk, irritation of skin or eyes not anticipated. *Skin Irritation*: Essentially non-irritating. PII or Draize = "0". *Eye Irritation*: Essentially non-irritating, or minimal effects which clear in < 24 hours [e.g. mechanical irritation]. Draize = "0". *Oral Toxicity LD_{50} Rat*: < 5000 mg/kg. *Dermal Toxicity LD_{50}Rat or Rabbit*: < 2000 mg/kg. *Inhalation Toxicity 4-hrs LC_{50} Rat*: < 20 mg/L.); **1** (Slight Hazard: Minor reversible Injury may occur; slightly or mildly irritating. *Skin Irritation*: Slightly or mildly irritating. *Eye Irritation*: Slightly or mildly irritating. *Oral Toxicity LD_{50} Rat*: > 500-5000 mg/kg. *Dermal Toxicity LD_{50}Rat or Rabbit*: > 1000-2000 mg/kg. *Inhalation Toxicity LC_{50}* 4-hrs *Rat*: > 2-20 mg/L) **2** (Moderate Hazard: Temporary or transitory injury may occur. *Skin Irritation*: Moderately irritating; primary irritant; sensitizer. PII or Draize > 0, < 5. *Eye Irritation*: Moderately to severely irritating and/or corrosive; reversible corneal opacity; corneal involvement or irritation clearing in 8-21 days. Draize > 0, ≤ 25. *Oral Toxicity LD_{50} Rat*: > 50-500 mg/kg. *Dermal Toxicity LD_{50}Rat or Rabbit*: > 200-1000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.5-2 mg/L.) **3** (Serious Hazard: Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. *Skin Irritation*: Severely irritating and/or corrosive; may destroy dermal tissue, cause skin burns, dermal necrosis. PII or Draize > 5-8 with destruction of tissue. *Eye Irritation*: Corrosive, irreversible destruction of ocular tissue; corneal involvement or irritation persisting for more than 21 days. Draize > 80 with effects irreversible in 21 days. *Oral Toxicity LD_{50} Rat*: > 1-50 mg/kg. *Dermal Toxicity LD_{50}Rat or Rabbit*: > 20-200 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.05-0.5 mg/L.); **4** (Severe Hazard: Life-threatening; major or permanent damage may result from single or repeated exposure. *Skin Irritation*: Not appropriate. Do not rate as a "4", based on skin irritation alone. *Eye Irritation*: Not appropriate. Do not rate as a "4", based on eye irritation alone. *Oral Toxicity LD_{50} Rat*: ≤ 1 mg/kg. *Dermal Toxicity LD_{50}Rat or Rabbit*: ≤ 20 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: ≤ 0.05 mg/L).

FLAMMABILITY HAZARD:

0 (Minimal Hazard-Materials that will not burn in air when exposure to a temperature of 815.5°C [1500°F] for a period of 5 minutes.); **1** (Slight Hazard-Materials that must be pre-heated before ignition can occur. Material require considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur, Including: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93.3°C [200°F] (e.g. OSHA Class IIIB, or; Most ordinary combustible materials [e.g. wood, paper, etc.]; **2** (Moderate Hazard-Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres in air, Including: Liquids having a flash-point at or above 37.8°C [100°F]; Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres; Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp; Solids and semisolids that readily give off flammable vapors.); **3** (Serious Hazard- Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions, including: Liquids having a flash point below 22.8°C [73°F] and having a boiling point at or above 38°C [100°F] and below 37.8°C [100°F] [e.g. OSHA Class IB and IC]; Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air [e.g., dusts of combustible solids, mists or droplets of flammable liquids]; Materials that burn extremely rapidly, usually by reason of self-contained oxygen [e.g. dry nitrocellulose and many organic peroxides]);) **4** (Severe Hazard-Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and which will burn readily, including: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C [73°F] and a boiling point below 37.8°C [100°F] [e.g. OSHA Class IA; Material that ignite spontaneously when exposed to air at a temperature of 54.4°C [130°F] or below [e.g. pyrophoric]).

PHYSICAL HAZARD:

0 (*Water Reactivity*: Materials that do not react with water. *Organic Peroxides*: Materials that are normally stable, even under fire conditions and will not react with water. *Explosives*: Substances that are Non-Explosive. Unstable *Compressed Gases*: No Rating. *Pyrophorics*: No Rating. *Oxidizers*: No "0" rating allowed. *Unstable Reactives*: Substances that will not polymerize, decompose, condense or self-react.);**1** (*Water Reactivity*: Materials that change or decompose upon exposure to moisture. *Organic Peroxides*: Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy. *Explosives*: Division 1.5 & 1.6 substances that are very insensitive explosives or that do not have a mass explosion hazard. *Compressed Gases*: Pressure below OSHA definition. *Pyrophorics*: No Rating. *Oxidizers*: Packaging Group III; Solids: any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. *Unstable Reactives*: Substances that may decompose, condense or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosive hazard. Substances that readily undergo hazardous polymerization in the absence of inhibitors.); **2** (*Water Reactivity*: Materials that may react violently with water. *Organic Peroxides*: Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. *Explosives*: Division 1.4 – Explosive substances where the explosive

effect are largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. *Compressed Gases*: Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group II Solids: any material that, either in concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. *Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential for significant heat generation or explosion. Substances that readily form peroxides upon exposure to air or oxygen at room temperature); **3** (*Water Reactivity*: Materials that may form explosive reactions with water. *Organic Peroxides*: Materials that are capable of detonation or explosive reaction, but require a strong initiating source, or must be heated under confinement before initiation; or materials that react explosively with water. *Explosives*: Division 1.2 – Explosive substances that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. *Compressed Gases*: Pressure ≥ 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group I Solids: any material that, in either concentration tested, exhibits a mean burning time less than the mean burning time of a 3.:2 potassium bromate/cellulose mixture. Liquids: Any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50%)/cellulose mixture. *Unstable Reactives*: Substances that may polymerize, decompose, condense or self-react at ambient temperature and/or pressure and have a moderate potential to cause significant heat generation or explosion.);**4** (*Water Reactivity*: Materials that react explosively with water without requiring heat or confinement. *Organic Peroxides*: Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. *Explosives*: Division 1.1 & 1.2-explosive substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. *Compressed Gases*: No Rating. *Pyrophorics*: Add to the definition of Flammability "4". *Oxidizers*: No "4" rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense or self-react at ambient temperature and/or pressure and have a high potential to cause significant heat generation or explosion.).

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS:

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: **0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. **1** Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur **2** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. **3** Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. **4** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily.

INSTABILITY HAZARD: **0** Materials that in themselves are normally stable, even under fire conditions. **1** Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. **2** Materials that readily undergo violent chemical change at elevated temperatures and pressures. **3** Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation. **4** Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the **N**ational **F**ire **P**rotection **A**ssociation (**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:

Human and Animal Toxicology: 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**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. **Other Information: BEI** - ACGIH 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. **BCF** = Bioconcentration Factor, which is used to determine if a substance will concentrate in lifeforms which consume contaminated plant or animal matter. **TL_m** = median threshold limit; Coefficient of Oil/Water Distribution is represented by **log K_{ow}** or **log K_{oc}** and is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION:

U.S. and CANADA:

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

This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **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**). **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 which appear on the material's package label. **OSHA** - U.S. Occupational Safety and Health Administration. **EUROPEAN: EU** is the European Union (formerly known as the **EEC,** European Economic Community). **EINECS:** This the European Inventory of Now-Existing Chemical Substances. The **ADR** is the European Agreement Concerning the International Carriage of Dangerous Goods by Road and the **RID** are the International Regulations Concerning the Carriage of Dangerous Goods by Rail. **AUSTRALIAN: AICS** is the Australian Inventory of Chemical Substances. **NOHSC:** NATIONAL OCCUPATIONAL HEALTH & SAFETY CODE.