Material Safety Data Sheet

GRUBER SEAMLESS™ STANDARD ADHESIVE

This product appears in the following stock number(s):

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SS003, SS004, SS009, SS010, SS012, SS015, SS016. SS017, SS018. SS020, SS021, SS022, SS023, SS024, SS025, SS026, SS027, SS028, SS029, SS030, SS042, SS045, SS045, SS046, SS047, SS048, SS051, SS052. SS068, SS070. SS071, SS072, SS073.

Package Designations include –40G, -G, -37, -2 and –5-G

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade name: GRUBER SEAMLESS™ STANDARD ADHESIVE

General use: Adhesive

Chemical family: Acrylate

MANUFACTURER
Gruber Systems-East
355 Gus Hipp Boulevard
Rockledge, FL 32955

EMERGENCY INFORMATION
Emergency Telephone Numbers
(CHEM-TEL): (800) 255-3924
Other Calls: (321)639-0431

2. COMPOSITION/INFORMATION OF INGREDIENTS

HAZARDOUS CONSTITUENTS

Exposure Limits

Constituent	Abbr.	CAS No.	Weight Percent	ACGIH TLV	OSHA PEL	Other Limits
Trimethylolpropane, trimethacrylate esters		*	1-10	n/e	n/e	1 mg/m3, skin (AIHA-WEEL)
Methyl Methacrylate Monomer	MMA	80626	40-70	50 ppm	100 ppm	100 ppm (Canada)

"TLV" means the Threshold Limit Value exposure (eight-hour, time weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "n/e" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance, form, odor: Liquid with mild ester odor.

WARNING! Flammable. Overexposure to liquid, mist or vapor may have the following effects: EYE AND SKIN EXPOSURE: Irritant and potential skin sensitizer. May cause redness, itching, burning, rash. RESPIRATORY EXPOSURE: Irritant. May cause headache, nausea, dizziness, fatigue, drowsiness. Avoid breathing vapor. Use with adequate ventilation or use proper respiratory equipment. Wash thoroughly after handling. Do not take internally.
Keep away from heat, sparks, open flames.

Potential health effects:

Primary routes of exposure: ☒ Skin Contact ☒ Skin Absorption ☒ Eye Contact ☒ Inhalation ☐ Ingestion

Symptoms of acute overexposure:

Skin: May cause irritation and sensitization. MMA may be absorbed through the skin.

Eyes: Liquid and vapors causes moderate irritation (burning sensation, tearing, redness, swelling). May cause corneal damage.

Inhalation:

High concentration is irritant to respiratory tract and may cause dizziness, headache, and anesthetic effects.

Effects of chronic overexposure:

Prolonged exposure may lead to kidney, lung, and liver damage. May cause dermatitis (itching, redness, rashes, hives, burning, swelling) and/or numbness / prickling of the skin. Repeated or prolonged inhalation exposure may cause asthma. May effect the central and/or peripheral nervous system.

Carcinogenicity – OSHA regulated: No ACGIH: No National Toxicology Program: No

International Agency for Research on cancer: No

Medical conditions which may be aggravated by exposure:

Preexisting eye and skin disorders and diseases of the lung.

Other effects:

MMA: Developmental toxicity observed in animal tests, but only at levels toxic to the mother. MMA is reported to impair human olfactory function.

4. FIRST AID MEASURES

First aid for eyes:

Flush eye with clean water for a t least 15 minutes while gently holding eyelids open. Get immediate medical attention.

First aid for skin:

Immediately remove contaminated clothing and excess contaminant. Flush skin with water. Wash thoroughly with warm soap and water. Consult a physician if irritation develops.

First aid for inhalation:

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

First aid for ingestion:

Do NOT induce vomiting. Rinse mouth out with water then sip 2 glasses of water. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips (if sitting) or to the side (if lying down) to prevent aspiration. Get medical attention.

5. FIRE FIGHTING MEASURES

General fire and explosion characteristics:
Vapor forms explosive mixture with air.

Extinguishing media:
☐ Water ☒ Carbon Dioxide ☒ Dry Chemical ☒ Foam ☐ Alcohol Foam_

Flash Point (°F): 50 **Method:** TCC

Explosive limits in air (percent) – Lower: 2.1 **Upper: 12.5**

Special fire fighting procedures:
Keep personnel removed and upwind from fire. Wear self contained breathing apparatus and full protective equipment. Cool tank with water spray. Fight fire from a distance as the heat may rupture the tanks.

Unusual fire and explosion hazards:
Sealed containers at elevated temperatures may rupture due to polymerization. Vapors are heavier than air and may travel to ignition sources and flash back. Burning liquid may float on water. Personnel in vicinity and downwind should be evacuated.

Hazardous products of combustion:
Carbon monoxide and other unknown toxic and corrosive compounds.

6. ACCIDENTAL RELEASE MEASURES

Spill control:
Avoid personal contact. Evacuate area. Eliminate ignition sources. Ventilate area.

Containment:
Dike, contain and absorb with clay, sand or other suitable non-combustible material.

Cleanup:
For large spills, pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly (RCRA hazardous waster). Add inhibitor as contaminated monomer may polymerize.

Special procedures:
Prevent spill from entering drainage/sewer systems, waterways, and surface waters. Spills on porous surfaces can contaminate groundwater. Notify authorities immediately if liquid enters sewer/public waters. Use bonding/grounding lines and non-sparking tools. Have proper fire extinguishers manned by properly trained personnel.

7. HANDLING AND STORAGE

Handling precautions:
Do not breathe vapor or mist. Do not get in eyes, or skin or clothing. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Air-dry and then launder contaminated clothing and protective gear before reuse. Close container after each use. Ground/bond container when pouring. Keep away from heat, flame or sparks. Use non-sparking tools.

Storage:

Keep in a cool place, without direct exposure to sunlight. Keep container tightly closed and other wise in accordance with NFPA regulations. Maintain air space in storage containers, inhibitor requires oxygen contact to function. Vapors are uninhibited and may form polymers in vents or flame arrestors, resulting in blockage of vents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

Ventilation:

Use ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits.

Other engineering controls:

Have emergency eye wash and safety shower present.

Personal protective equipment

Eye and face protection:

Wear safety glasses. Wear coverall chemical splash goggles and face shield when eye and face contact is possible.

Skin protection:

Chemical-resistant gloves (i.e. butyl) and other gear as required to prevent skin contact.

Respiratory protection:

A NIOSH/MSHA air purifying respirator with an organic vapor cartridge may be permissible as exposure levels dictate. However use a positive pressure air supplied respirator if there is any potential for uncontrolled release, or unknown exposure levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	.93 - 1.05	**Boiling point (°F):**	213
Melting point (°F):	-54	**Vapor density (air = 1):**	3.5
Vapor pressure (mmHg):	28 mm Hg at 68 °F	**Evaporation rate (butyl acetate =1)**	3
VOC (grams/liter):	<50 mixed	**Solubility in water:**	n/d
Percent volatile by volume:	n/d	**pH (5% solution or slurry in water):**	
Percent solids by weight	n/d		

10. STABILITY AND REACTIVITY

This material is chemically stable. Hazardous polymerization may occur.

Conditions to avoid: Unstable with heat, direct sunlight, inert gas blanketing, ultraviolet radiation.

Incompatible materials:
Strong oxidizing and reducing agents, acids and bases. Free radical initiators. Material is a strong solvent and can soften paint and rubber.

Hazardous products of decomposition:
Carbon monoxide, carbon dioxide, acrid smoke and irritating fumes.

Conditions under which hazardous polymerization may occur:
Excessive heat, storage in the absence of inhibitor and inadvertent addition of catalyst.

11. TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): Not available.
Toxicity of MMA exposed near LD50 include blood in the urine and liver changes.

Acute dermal effects: LD50 (rabbit): Not available.
Dermatitis.

Acute inhalation effects: LC50 (rat): Not available. Exposure: 4 Hours
Toxicity of MMA at 8-100 times TLV from respiratory and gastrointestinal irritation, lung damage, nervous system effects and blood in urine.

Eye irritation:
Not available.

Sub-chronic effects:
Inhalation: Repeated exposure of MMA at 5-100 times the TLV include lung damage, pulmonary irritation, liver changes, eye irritation, nasal tissue changes, incoordination and upper respiratory irritation. Ingestion: Liver and kidney effects with altered function in both organs. Skin permeation may occur.

Carcinogenicity, teratogenicity, and mutagenicity:
Possible reproductive hazard based on animal data:

Other chronic effects:
Inhalation: long term exposure of MMA caused inflammation of the nasal cavity, changes in nasal sensory cells and decreased body weigh. Ingestion: Can cause decreased bocy weight, and increased kidney weight ppm.

Other chronic effects:
Inhalation: long term exposure of MMA caused inflammation of the nasal cavity, changes in nasal sensory cells and decreased body weight. Ingestion: can cause decreased body weight, and increased kidney weight.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50. (rabbit)	Inhalation LC50 4hr, (rat)
Trimethylolpropane, trimethacrylate esters	n/d	n/d	n/d
Methyl Methacrylate Monomer	7872 mg/kg	>35.500 mg/kg	7093 ppm

***n/d = not determined**

12. ECOLOGICAL INFORMATION

Ecotoxicity:

MMA has; estimate of 96 hour median threshold limit; 100-1,000 ppm; 96 hour LC50, fat head minnow; 150 ppm; 96 hour LC50, blue gill sunfish; 232 ppm

Mobility and persistence:

MMA is partially biodegradable in water. BOD-5 day: 0.14 g/g - 0.90 g/g; THOD: 1.92 g/g.

Environmental fate:

MMA produces high tonnage material in wholly contained system. Liquid with moderate mobility. Sparingly soluble in water. High potential for bio-accumulation. Low mobility in soil.

13. DISPOSAL CONSIDERATIONS

Please see also Section 15, Regulatory Information

Waste management recommendations:

If this product becomes a waste, it would be a hazardous waste by RCRA criteria (40CFR 261). Dispose of according to applicable federal, state, and local regulations. Do not dispose of in a landfill. Incineration is the preferred method of disposal. Empty containers still contain hazardous product residue (vapors and/or liquid). Follow all MSDS and label warnings even after container is emptied. Residual vapors in empty containers may explode on ignition - DO NOT cut, drill, grind, or weld on a near container

14. TRANSPORT INFORMATION

Proper shipping name:	Adhesives*
Technical name:	N/A
Hazard class:	3
UN number:	1133
Packing group:	II
Emergency Response guide no.:	128
IMDG page number:	N/A
Other:	Containers < 30 liters are PG III

*Depending upon the size and type of container, this material may be reclassified as "Consumer commodity, ORM-D" for shipments within the United States, or "Limited Quantity" elsewhere. Refer to the appropriate regulation.

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA

All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

The following RCRA code(s) applies to this material if it becomes waste:
D001

Regulatory status of hazardous chemical constituents of this product:

Constituent	Extremely Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	TSCA 12B Export Notification
Trimethylolpropane, trimethacrylate esters	No	No	0.0	Not required
Methyl Methacrylate Monomer	No	Yes	1000.0	Required

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance list.

**Substance for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - Immediate health hazard - Delayed health hazard – Fire hazard - Reactivity hazard -

Canadian regulations

WHMIS hazard class(es): B2D2B

Regulatory notes:
In normal use, the methyl methacrylate in this product is polymerized during cure. For purposes of air quality regulations, the maximum amount of VOC (i.e.MMA) emitted is negligible (less than 5%). Actual emissions are a function of substrate and process and should be considered on an individual basis.

16. OTHER INFORMATION

Hazardous Materials Identification System (HMIS) ratings	Health	Flammability	Reactivity
	2*	3	2

The information and recommendations in this document are based on the best information available to us at the time of preparation, but we make no other warranty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.