



EUCLID CHEMICAL

Version: 1.0
Revision Date: 10/13/2015

SAFETY DATA SHEET

1. Identification

Material name: BARACADE MICRO EMUL 55 GL PL

Material: TL1934555000

Recommended use and restriction on use

Recommended use: Coatings

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY

19218 REDWOOD ROAD

CLEVELAND OH 44110

US

Contact person:

EH&S Department

Telephone:

216-531-9222

Emergency telephone number:

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids

Category 3

Health Hazards

Carcinogenicity

Category 1A

Unknown toxicity - Health

Acute toxicity, oral	0 %
Acute toxicity, dermal	65 %
Acute toxicity, inhalation, vapor	99.1 %
Acute toxicity, inhalation, dust or mist	35 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	91.89 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word:

Danger



Hazard Statement:	Flammable liquid and vapor. May cause cancer.
Precautionary Statement:	
Prevention:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.
Response:	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If exposed or concerned: Get medical advice/attention. In case of fire: Use ... to extinguish.
Storage:	Store in well-ventilated place. Keep cool. Store locked up.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification:	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Tetraethoxysilane	78-10-4	15 - 40%
Acetic acid	64-19-7	5 - 10%
Ethyl alcohol	64-17-5	0.5 - 1.5%
Methanol	67-56-1	0.5 - 1.5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion:	Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.
Inhalation:	Move to fresh air.
Skin Contact:	Get medical attention if symptoms occur. Take off immediately all contaminated clothing. Rinse skin with water/shower.
Eye contact:	Rinse immediately with plenty of water.

Most important symptoms/effects, acute and delayed

Symptoms:	Respiratory tract irritation.
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**Indication of immediate medical attention and special treatment needed**

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

**7. Handling and storage**

Precautions for safe handling: Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

Chemical Identity	type	Exposure Limit Values	Source
Tetraethoxysilane	TWA	10 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 850 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Acetic acid	TWA	10 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	15 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	10 ppm 25 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Ethyl alcohol	STEL	1,000 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	1,000 ppm 1,900 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Methanol	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	250 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	200 ppm 260 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)



Chemical name	type	Exposure Limit Values	Source
Tetraethoxysilane	TWA	10 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Tetraethoxysilane	TWAEV	10 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Tetraethoxysilane	TWA	10 ppm 85 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Acetic acid	STEL	15 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	10 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Acetic acid	STEL	15 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	TWAEV	10 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Acetic acid	TWA	10 ppm 25 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	15 ppm 37 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Ethyl alcohol	STEL	1,000 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Ethyl alcohol	STEL	1,000 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Ethyl alcohol	TWA	1,000 ppm 1,880 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
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Methanol (methanol: Sampling time: End of shift.)	15 mg/l (Urine)	ACGIH BEL (03 2013)
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Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information:	Use explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Eye/face protection:	Wear goggles/face shield.
Skin Protection	
Hand Protection:	Use suitable protective gloves if risk of skin contact.
Other:	No data available.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke.

9. Physical and chemical properties**Appearance**

Physical state:	liquid
Form:	liquid
Color:	Pale yellow
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	25 °C 77 °F (Abel closed cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.

Vapor density: Vapors are heavier than air and may travel along the floor and



	in the bottom of containers.
Relative density:	+/- 0.14 0.95
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Heat, sparks, flames.
Incompatible Materials:	Strong acids. Avoid contact with oxidizing agents (e.g. nitric acid, peroxides and chromates). Strong bases.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be harmful if swallowed.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Moderately irritating to skin with prolonged exposure.
Eye contact:	Eye contact is possible and should be avoided.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	ATEmix: 3,097.17 mg/kg
Dermal	
Product:	ATEmix: 5,879.56 mg/kg
Inhalation	
Product:	No data available.

**Repeated dose toxicity****Product:** No data available.**Skin Corrosion/Irritation****Product:** No data available.**Serious Eye Damage/Eye Irritation****Product:** No data available.**Specified substance(s):**

Tetraethoxysilane in vivo (Rabbit, 24 - 72 hrs): Not irritating

Acetic acid in vivo (Rabbit, 1 d): Category 1

Ethyl alcohol in vivo (Rabbit, 24 hrs): Not irritating

Methanol in vivo (Rabbit, 24 hrs): Not irritating

Respiratory or Skin Sensitization**Product:** No data available.**Carcinogenicity****Product:** No data available.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**Ethyl alcohol Overall evaluation: Carcinogenic to humans. Overall evaluation:
Carcinogenic to humans.**US. National Toxicology Program (NTP) Report on Carcinogens:**

Ethyl alcohol Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity**In vitro****Product:** No data available.**In vivo****Product:** No data available.**Reproductive toxicity****Product:** No data available.

**Specific Target Organ Toxicity - Single Exposure****Product:** No data available.**Specific Target Organ Toxicity - Repeated Exposure****Product:** No data available.**Aspiration Hazard****Product:** No data available.**Other effects:** No data available.**12. Ecological information****Ecotoxicity:****Acute hazards to the aquatic environment:****Fish****Product:** No data available.**Specified substance(s):**

Acetic acid LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 79 mg/l Mortality

Ethyl alcohol LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 13,480 mg/l Mortality

Methanol LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 28,200 mg/l Mortality

Aquatic Invertebrates**Product:** No data available.**Specified substance(s):**

Acetic acid LC 50 (Water flea (*Daphnia magna*), 24 h): 47 mg/l Mortality

Ethyl alcohol LC 50 (Water flea (*Daphnia magna*), 96 h): > 100 mg/l Mortality
LC 50 (Ramshorn snail (*Helisoma trivolvis*), 96 h): > 100 mg/l Mortality
LC 50 (Scud (*Gammarus fasciatus*), 96 h): > 100 mg/l Mortality
LC 50 (Brine shrimp (*Artemia salina*), 24 h): > 10,000 mg/l Mortality
EC 50 (Water flea (*Daphnia magna*), 48 h): > 10,000 mg/l Intoxication

Methanol LC 50 (Water flea (*Daphnia magna*), 24 h): 3,616 - 6,414 mg/l Mortality
EC 50 (Water flea (*Daphnia magna*), 48 h): > 10,000 mg/l Intoxication
EC 50 (Water flea (*Daphnia magna*), 24 h): > 10,000 mg/l Intoxication
LC 50 (Water flea (*Daphnia magna*), 96 h): > 100 mg/l Mortality
LC 50 (Oligochaete, worm (*Lumbriculus variegatus*), 96 h): > 100 mg/l Mortality

Chronic hazards to the aquatic environment:**Fish****Product:** No data available.**Specified substance(s):**



Acetic acid	NOAEL (Oncorhynchus mykiss, 21 d): 34.3 mg/l experimental result
Ethyl alcohol	NOAEL (Oryzias latipes, 200 h): 7,900 mg/l interpreted
Methanol	NOAEL (Oryzias latipes, 200 h): 11,850 mg/l experimental result

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability**Biodegradation**

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential**Bioconcentration Factor (BCF)**

Product: No data available.

Specified substance(s):

Methanol Green algae (Chlorella fusca vacuolata), Bioconcentration Factor (BCF): 28,400 (Static)

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Acetic acid Log Kow: -0.17

Ethyl alcohol Log Kow: -0.31

Methanol Log Kow: -0.77

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

**14. Transport information****TDG:**

UN1993, FLAMMABLE LIQUID, N.O.S. (Trimethoxy (2,4,4,-Trimethylpentyl) Silane), 3, PG III

CFR / DOT:

UN1993, Flammable liquids, n.o.s. (Trimethoxy (2,4,4,-Trimethylpentyl) Silane), 3, PG III

IMDG:

UN1993, FLAMMABLE LIQUID, N.O.S. (Trimethoxy (2,4,4,-Trimethylpentyl) Silane), 3, PG III

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation.
Please refer to Bill of Lading.

15. Regulatory information**US Federal Regulations****TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Acetic acid	5000 lbs.
Ethyl alcohol	100 lbs.
Methanol	5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Fire Hazard

Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Acetic acid	5000 lbs.
Ethyl alcohol	100 lbs.
Methanol	5000 lbs.

**SARA 311/312 Hazardous Chemical**

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Tetraethoxysilane	500 lbs
Acetic acid	500 lbs
Ethyl alcohol	500 lbs
Methanol	500 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations**US. California Proposition 65**

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know ActChemical Identity

Tetraethoxysilane
Acetic acid
Ethyl alcohol

US. Massachusetts RTK - Substance ListChemical Identity

Tetraethoxysilane
Acetic acid

US. Pennsylvania RTK - Hazardous SubstancesChemical Identity

Tetraethoxysilane
Acetic acid

US. Rhode Island RTKChemical Identity

Acetic acid

Other Regulations:

Regulatory VOC (less water and exempt solvent):	318 g/l
VOC Method 310:	Not available.

Inventory Status:

Australia AICS:

One or more components in this product are not listed on or exempt from the Inventory.

Canada DSL Inventory List:

All components in this product are listed on or exempt from the Inventory.



EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision
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Revision Date: 10/13/2015

Version #: 1.0

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

