



EUCLID CHEMICAL

Version: 1.0
Revision Date: 07/13/2016

This is a kit that contains the following components:
HIGH PERFORMANCE EPOXY 2:1 PART B
HIGH PERFORMANCE EPOXY(A)-80 OZ-WHITE



SAFETY DATA SHEET

1. Identification

Product identifier: HIGH PERFORMANCE EPOXY 2:1 PART B
Product Code: CEPK G003 970

Recommended use and restriction on use

Recommended use: Curative
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

Health Hazards

Acute toxicity (Oral)	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1
Toxic to reproduction	Category 2

Unknown toxicity - Health

Acute toxicity, oral	7.9 %
Acute toxicity, dermal	27.55 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	85.51 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 2
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Unknown toxicity - Environment

Acute hazards to the aquatic environment	63.87 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Harmful if swallowed.
Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
Toxic to aquatic life.

Precautionary Statement

Prevention: Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.

Storage: 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: None.

3. Composition/information on ingredients**Mixtures**

Chemical Identity	CAS number	Content in percent (%)*
Poly(oxypropylene) diamine	9046-10-0	30 - 60%
4-Nonylphenol	84852-15-3	15 - 40%
Benzyl alcohol	100-51-6	10 - 30%



4,4'-diaminodicyclohexyl methane	1761-71-3	5 - 10%
N Amino ethyl piperazine	140-31-8	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. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms:	Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing.
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Indication of immediate medical attention and special treatment needed

Treatment:	Symptoms may be delayed.
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5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.
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Suitable (and unsuitable) extinguishing media

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

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.
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Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.



6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
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. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling:	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Do not taste or swallow. Wash hands thoroughly after handling. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with skin. Avoid contact with eyes, skin, and clothing.
Conditions for safe storage, including any incompatibilities:	Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

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:

Provide easy access to water supply and eye wash facilities. 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 a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.
Skin Protection	
Hand Protection:	Use suitable protective gloves if risk of skin contact.
Other:	Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Observe good industrial hygiene practices. Do not eat, drink or smoke when using the product. Wash hands after handling. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Amber
Odor:	Mild pungent
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:	No data available.
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:	0.99
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: Avoid heat or contamination.

Incompatible Materials: Avoid contact with acids.

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: Harmful if swallowed.

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Causes serious eye damage.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: ATEmix: 1,741.68 mg/kg

Dermal Product: ATEmix: 2,889.71 mg/kg

Inhalation Product: No data available.

Repeated dose toxicity Product: No data available.

Skin Corrosion/Irritation



Product:	No data available.
Specified substance(s):	
Poly(oxypropylene) diamine	(Rabbit): Experimental result, Supporting study
4-Nonylphenol	in vivo (Rabbit): Experimental result, Weight of Evidence study
Benzyl alcohol	in vivo (Rabbit): Experimental result, Key study
4,4'-diaminodicyclohexyl methane	in vivo (Rabbit): Experimental result, Key study
N Amino ethyl piperazine	in vivo (Rabbit): Experimental result, Key study

Serious Eye Damage/Eye Irritation

Product:	No data available.
Specified substance(s):	
Poly(oxypropylene) diamine	in vivo (Rabbit, 24 hrs): Corrosive
4-Nonylphenol	in vivo (Rabbit, 24 - 72 hrs): Corrosive
Benzyl alcohol	in vivo (Rabbit, 24 - 72 hrs): Irritating
4,4'-diaminodicyclohexyl methane	in vivo (Rabbit, 1 hrs): Category 1
N Amino ethyl piperazine	in vivo (Rabbit, 24 hrs): Highly irritating

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

**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:** Suspected of damaging fertility or the unborn child.**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):**4-Nonylphenol LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 0.13825 mg/l MortalityBenzyl alcohol LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 460 mg/l MortalityN Amino ethyl piperazine LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 1,950 - 2,460 mg/l Mortality**Aquatic Invertebrates****Product:** No data available.**Specified substance(s):**4-Nonylphenol LC 50 (Amphipod (*Leptocheirus plumulosus*), 144 h): +/- 0.05 mg/l Mortality
EC 50 (Clam (*Mulinia lateralis*), 24 h): +/- +/- 0.05 mg/l Mortality
LC 50 (Marsh grass shrimp (*Palaemonetes vulgaris*), 72 h): > 0.05 - 0.1 mg/l Mortality



LC 50 (Amphipod (*Leptocheirus plumulosus*), 72 h): > 0.05 - 0.1 mg/l
Mortality
LC 50 (American lobster (*Homarus americanus*), 48 h): > 0.1 - 0.15 mg/l
Mortality

Chronic hazards to the aquatic environment:**Fish**

Product: No data available.

Specified substance(s):

4-Nonylphenol
LOAEL (*Pimephales promelas*, 28 d): 0.0775 mg/l Experimental result, Supporting study
LOAEL (*Oryzias latipes*, 104 d): 0.0177 mg/l Experimental result, Supporting study
LOAEL (*Lepomis macrochirus*, 28 d): 0.126 mg/l Experimental result, Supporting study
NOAEL (*Lepomis macrochirus*, 28 d): 0.0595 mg/l Experimental result, Supporting study
NOAEL (*Pimephales promelas*, 28 d): 0.038 mg/l Experimental result, Supporting study

4,4'-diaminodicyclohexyl methane
NOAEL (Various): > 1 mg/l Estimated by calculation, Supporting study

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):

4-Nonylphenol
Fathead minnow (*Pimephales promelas*), Bioconcentration Factor (BCF): 498 (Flow through)

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):



Benzyl alcohol Log Kow: 1.10

Mobility in Soil: No data available.

Other Adverse Effects: Toxic to aquatic organisms.

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:

UN1760, CORROSIVE LIQUID, N.O.S. (Alkaline Amine), 8, PG II

CFR / DOT:

UN1760, Corrosive liquids, n.o.s. (Alkaline Amine), 8, PG II

IMDG:

UN1760, CORROSIVE LIQUID, N.O.S. (Alkaline Amine, Nonylphenol), 8, PG II, MARINE POLLUTANT

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)

Chemical Identity

4-Nonylphenol

Reportable quantity

De minimis concentration: 1.0% One-Time Export Notification only.

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):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards

Delayed (Chronic) Health Hazard

**SARA 302 Extremely Hazardous Substance**

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Poly(oxypropylene) diamine	500 lbs
4-Nonylphenol	500 lbs
Benzyl alcohol	500 lbs
4,4'-diaminodicyclohexyl methane	500 lbs
N Amino ethyl piperazine	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

N Amino ethyl piperazine

US. Massachusetts RTK - Substance ListChemical Identity4-Nonylphenol
Benzyl alcohol
N Amino ethyl piperazine**US. Pennsylvania RTK - Hazardous Substances**Chemical Identity4-Nonylphenol
Benzyl alcohol
N Amino ethyl piperazine**US. Rhode Island RTK**

No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:



186 g/l

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	One or more components in this product are not 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

Revision Date:	07/13/2016
Version #:	1.0
Further Information:	No data available.



EUCLID CHEMICAL

Version: 1.0
Revision Date: 07/13/2016

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.



SAFETY DATA SHEET

1. Identification

Product identifier: HIGH PERFORMANCE EPOXY(A)-80 OZ-WHITE
Product Code: CEPK G003 970

Recommended use and restriction on use

Recommended use: Sealant
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

Health Hazards

Acute toxicity (Inhalation - dust and mist)	Category 4
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1B
Toxic to reproduction	Category 2

Acute toxicity, oral	7.35 %
Acute toxicity, dermal	37.99 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	98.49 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 2
Acute hazards to the aquatic environment	93.43 %
Chronic hazards to the aquatic environment	100 %



Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Harmful if inhaled.
Causes serious eye damage.
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
Toxic to aquatic life.

Precautionary Statement

Prevention: Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.

Storage: 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: None.

3. Composition/information on ingredients

Mixtures



Chemical Identity	CAS number	Content in percent (%)*
Bisphenol A Polyglycidyl Ether Resin	25068-38-6	40 - 70%
Titanium dioxide	13463-67-7	15 - 40%
4-Nonylphenol	84852-15-3	5 - 10%
Neopentyl glycol diglycidyl ether	17557-23-2	5 - 10%
Kaolin Clay	1332-58-7	3 - 7%
Aluminum oxide	1344-28-1	1 - 5%
Amorphous silica	7631-86-9	1 - 5%
Zirconium dioxide	1314-23-4	0.1 - 1%
Petroleum naphtha, heavy alkylate	64741-65-7	0.1 - 1%

* 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:	If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms:	Extreme irritation of eyes and mucous membranes, including burning and tearing.
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Indication of immediate medical attention and special treatment needed

Treatment:	Symptoms may be delayed.
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5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.
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Suitable (and unsuitable) extinguishing media

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

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.



Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

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. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Wash hands thoroughly after handling. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Titanium dioxide	TWA	10 mg/m ³	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Kaolin Clay -	TWA	2 mg/m ³	US. ACGIH Threshold Limit Values



Respirable fraction.			(2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Kaolin Clay - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum oxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum oxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Zirconium dioxide - as Zr	STEL	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Petroleum naphtha, heavy alkylate	PEL	100 ppm 400 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)



Chemical name	type	Exposure Limit Values	Source
Titanium dioxide - Total dust.	TWA	10 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWAEV	10 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m ³	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Kaolin Clay - Respirable.	TWA	2 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Kaolin Clay - Respirable fraction.	TWAEV	2 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Kaolin Clay - Respirable dust.	TWA	5 mg/m ³	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Aluminum oxide - Respirable.	TWA	1 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Aluminum oxide - Respirable fraction.	TWAEV	1 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Aluminum oxide - Total dust. - as Al	TWA	10 mg/m ³	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Amorphous silica - Total	TWA	4 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica - Respirable.	TWA	1.5 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)



Amorphous silica	TWAEV	10 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Amorphous silica - Respirable dust.	TWA	6 mg/m ³	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

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:**

Provide easy access to water supply and eye wash facilities. 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 a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection**Hand Protection:**

Use suitable protective gloves if risk of skin contact.

Other:

Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

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. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties**Appearance****Physical state:**

liquid

Form:

liquid

Color:

White

Odor:

Mild

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:	No data available.
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:	1.38
Solubility(ies)	
Solubility in water:	Insoluble in water
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:	Avoid heat or contamination.
Incompatible Materials:	No data available.
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 ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	May be harmful in contact with skin. Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes serious eye damage.

**Information on toxicological effects****Acute toxicity (list all possible routes of exposure)****Oral****Product:** ATEmix: 21,784.07 mg/kg**Dermal****Product:** ATEmix: 3,721.17 mg/kg**Inhalation****Product:** ATEmix: 2.28 mg/l**Repeated dose toxicity****Product:** No data available.**Skin Corrosion/Irritation****Product:** No data available.**Specified substance(s):**Bisphenol A
Polyglycidyl Ether
Resin in vivo (Rabbit): Experimental result, Key study

Titanium dioxide in vivo (Rabbit): Experimental result, Supporting study

4-Nonylphenol in vivo (Rabbit): Experimental result, Weight of Evidence study

Aluminum oxide in vivo (Rabbit): Experimental result, Key study

Amorphous silica in vivo (Rabbit): Experimental result, Key study

Serious Eye Damage/Eye Irritation**Product:** No data available.

**Specified substance(s):**

Bisphenol A Polyglycidyl Ether Resin	in vivo (Rabbit, 24 hrs): Slightly irritating
Titanium dioxide	in vivo (Rabbit, 24 hrs): Not irritating
4-Nonylphenol	in vivo (Rabbit, 24 - 72 hrs): Corrosive
Aluminum oxide	in vivo (Rabbit, 24 hrs): Not irritating
Amorphous silica	in vivo (Rabbit, 24 hrs): Not irritating
Zirconium dioxide	in vivo (Rabbit, 24 hrs): Not irritating

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: May cause cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Titanium dioxide Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

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: Suspected of damaging fertility or the unborn child.

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):

4-Nonylphenol LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 0.13825 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

4-Nonylphenol LC 50 (Amphipod (*Leptocheirus plumulosus*), 144 h): +/- 0.05 mg/l Mortality
EC 50 (Clam (*Mulinia lateralis*), 24 h): +/- +/- 0.05 mg/l Mortality
LC 50 (Marsh grass shrimp (*Palaemonetes vulgaris*), 72 h): > 0.05 - 0.1 mg/l Mortality
LC 50 (Amphipod (*Leptocheirus plumulosus*), 72 h): > 0.05 - 0.1 mg/l Mortality
LC 50 (American lobster (*Homarus americanus*), 48 h): > 0.1 - 0.15 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Titanium dioxide LC 50 (*Oncorhynchus mykiss*, 28 d): 7.31 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study

4-Nonylphenol LOAEL (*Pimephales promelas*, 28 d): 0.0775 mg/l Experimental result, Supporting study
LOAEL (*Oryzias latipes*, 104 d): 0.0177 mg/l Experimental result, Supporting study
LOAEL (*Lepomis macrochirus*, 28 d): 0.126 mg/l Experimental result, Supporting study
NOAEL (*Lepomis macrochirus*, 28 d): 0.0595 mg/l Experimental result, Supporting study
NOAEL (*Pimephales promelas*, 28 d): 0.038 mg/l Experimental result, Supporting study

Aluminum oxide EC 10 (*Pimephales promelas*, 7 d): 2.729 mg/l Experimental result, Weight of Evidence study



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):

4-Nonylphenol Fathead minnow (*Pimephales promelas*), Bioconcentration Factor (BCF):
498 (Flow through)

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: Toxic to aquatic organisms.

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:

Not Regulated

CFR / DOT:

Not Regulated



IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity

4-Nonylphenol

Reportable quantity

De minimis concentration: 1.0% One-Time Export Notification only.

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):

Chemical Identity

Phosphoric acid

Reportable quantity

5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards

Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity

Phosphoric acid

Reportable quantity

5000 lbs.



SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Bisphenol A Polyglycidyl Ether Resin	500 lbs
Titanium dioxide	500 lbs
4-Nonylphenol	500 lbs
Neopentyl glycol diglycidyl ether	500 lbs
Kaolin Clay	500 lbs
Aluminum oxide	500 lbs
Amorphous silica	500 lbs
Zirconium dioxide	500 lbs
Petroleum naphtha, heavy alkylate	500 lbs

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>
Aluminum oxide

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 Act

<u>Chemical Identity</u>
Titanium dioxide
Kaolin Clay
Aluminum oxide
Amorphous silica

US. Massachusetts RTK - Substance List

<u>Chemical Identity</u>
Titanium dioxide
4-Nonylphenol
Kaolin Clay
Aluminum oxide
Amorphous silica
Crystalline Silica (Quartz)/ Silica Sand



US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Titanium dioxide
4-Nonylphenol
Kaolin Clay
Aluminum oxide
Amorphous silica

US. Rhode Island RTK

Chemical Identity

Aluminum oxide

Other Regulations:

**When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:
186 g/l**

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

Revision Date: 07/13/2016

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.