

Section 1: Identification of the Substance/Mixture and of the Company Undertaking

Product identifier used on the label:

Product Name: Impact Toughened Structural Adhesive

Other means of identification:

Product Codes: 63642506427

Trade Name: Impact Toughened Structural Adhesive

Recommended use of the chemical and restrictions on use:

Product Uses: Recommended use: Adhesives

Chemical manufacturer address and telephone number:

Manufacturer Name: Saint-Gobain Abrasives, Inc.

Manufacturer Address 1: 1 New Bond Street

Manufacturer City: Worcester

Manufacturer State: MA
Manufacturer Zip Code: 01615
Manufacturer Country: USA

Manufacturer Web: www.Nortonabrasives.com

Business Phone: 508-795-5000

Distributor: Saint-Gobain Canada, Inc.

Distributor Address 1: 28 Albert St, W.

Distributor City: Plattsville

Distributor State: ON
Distributor ZipCode: NOJ 1SO
Distributor Country: Canada

Distributor Web: www.Nortonabrasives.com

Distributor Phone: 519-684-7441

Emergency phone number:

Emergency Phone: 508-795-5000

Creation Date: 2019-01-09

Revision Date: 2019-01-25 18:32:00

Notes from Section 1: CHEMTREC:

For emergencies in the US, call CHEMTREC: 800-424-9300 For emergencies in Canada, call CHEMTREC: 800-424-9300

Section 2: Hazards Identification

Classification of the chemical in accordance with CFR 1910.1200(d)(f):







Signal Words: Danger

Product:

GHS Class: GHS Classification

Skin corrosion: Category 1
Serious eye damage: Category 1
Skin sensitization: Category 1
Reproductive toxicity: Category 2

Specific target organ systemic toxicity - repeated exposure (Inhalation): Category 1

(Respiratory Tract)

Hazard Statements: H314 - Causes severe skin burns and eye damage.

H317 - May cause an allergic skin reaction.

H361 - Suspected of damaging fertility. Suspected of damaging the unborn child. H372 - Causes damage to organs (Respiratory Tract) throughprolonged or repeated

exposure if inhaled.

Precautionary Statements: P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P260 - Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

P264 - Wash skin thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P272 - Contaminated work clothing must not be allowed out of theworkplace. P280 - Wear protective gloves/ protective clothing/ eye protection/ faceprotection.

P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.

P353 - Rinse skin with water/shower.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for

breathing.

P310 - Immediately call a POISON CENTER/doctor.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - IF exposed or concerned: Get medical advice/attention P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P363 - Wash contaminated clothing before reuse.

P405 - Store locked up.

P501 - Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified that have been identified during the classification process:

Section 3: Composition/Information on Ingredients

Mixtures:

Ingredient Name	CAS Number	Ingredient Percent	EC Number	Comments
PART A: ALKYLPHENOL	254504001- 6318	Concentration (%): 2.34		
PART A : EPOXY RESIN C	25068-38-6	Concentration (%) : 52.50		
PART A :BISPHENOL A, DIGLYCIDYL ETHER POLYMER	25068-38-6	Concentration (%): 13.30		
PART A :TALC	14807-96-6	Concentration (%) : 4.00		
PART A :3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Concentration (%) :2.00		
PART B :Amine terminated polymer	254504001- 6317	Concentration (%) :>= 10.00 - < 15.00		
PART B :ALKYLAMINE	254504001- 6322	Concentration (%) :>= 1.50 - < 5.00		
PART B :DIETHYLENE GLYCOL DI(AMINOPROPYL)ETHER	4246-51-9	Concentration (%) :20.00		
PART B :POLYOXYPROPYLENEDIAMINE	9046-10-0	Concentration (%) :20.00		

PART B :POLY[OXY(METHYL-1,2- ETHANEDIYL)], .ALPHA.,.ALPHA.	64852-22-8	Concentration (%) :20.00	
PART B :2-PROPENENITRILE, POLYMER WITH 1,3-BUTADIENE, 1-C	68683-29-4	Concentration (%) :9.50	
PART B :2,4,6- TRIS(DIMETHYLAMINOMETHYL)PHENOL	90-72-2	Concentration (%) :5.3999	
PART B :TALC	14807-96-6	Concentration (%) :5.00	
PART B :POLYPROPYLENE GLYCOL	25322-69-4	Concentration (%) :1.40	

Product:

Comments: PART A

The identity of one or more component(s) is being withheld under business

confidentiality.

PART B

Substance / Mixture : Mixture

The identity and concentration of one or more component(s) is being withheld

under business confidentiality.

PART B:2-PROPENENITRILE, POLYMER WITH 1,3-BUTADIENE, 1-C:

Comments: Classification

Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Skin Sens. 1; H317

PART B :POLYPROPYLENE GLYCOL:

Comments: Classification

This material is not considered hazardous under the OSHA Hazard

Communication Standard (HazCom 2012).

PART B :ALKYLAMINE:

Comments: Classification

Acute Tox. 4; H302 Acute Tox. 3; H311 Skin Corr. 1; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Repr. 2; H361fd STOT RE 1; H372

PART B :2,4,6- TRIS(DIMETHYLAMINOMETHYL)PHENOL:

Comments: Classification

Skin Corr. 1C; H314 Eye Dam. 1; H318

PART A: EPOXY RESIN C:

Comments: Classification

Skin Sens. 1B; H317

PART A : ALKYLPHENOL:

Comments: Classification

Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1B; H317

PART B :DIETHYLENE GLYCOL DI(AMINOPROPYL)ETHER:

Comments: Classification

Skin Corr. 1; H314 Eye Dam. 1; H318 Skin Sens. 1; H317

PART A :TALC:

Comments: Classification

This material is not considered hazardous under the OSHA Hazard

Communication Standard (HazCom 2012).

PART B : POLYOXYPROPYLENEDIAMINE:

Comments: Classification

Skin Corr. 1C; H314 Eye Dam. 1; H318

PART A :3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER:

Comments: Classification

Eye Dam. 1; H318

PART A :BISPHENOL A, DIGLYCIDYL ETHER POLYMER:

Comments: Classification

Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Skin Sens. 1; H317

PART B :TALC:

Comments: Classification

This material is not considered hazardous under the OSHA Hazard

Communication Standard (HazCom 2012)

PART B : Amine terminated polymer:

Comments: Classification

Skin Irrit. 2; H315 Skin Sens. 1; H317

PART B :POLY[OXY(METHYL-1,2- ETHANEDIYL)], .ALPHA.,.ALPHA.:

Comments: Classification

Skin Irrit. 2; H315 Eye Dam. 1; H318

Section 4: First Aid Measures

Description of necessary measures:

Eye Contact: In the case of contact with eyes, rinse immediately with plenty of water and seek

medical advice.

Continue rinsing eyes during transport to hospital.

Remove contact lenses. Protect unharmed eye.

Skin Contact: Remove contaminated clothing. If irritation develops, getmedical attention.

If on skin, rinse well with water.

Wash contaminated clothing before re-use.

Inhalation: Move to fresh air.

If breathed in, move person into fresh air.

Keep patient warm and at rest.

If unconscious, place in recovery position and seek medical advice.

If symptoms persist, call a physician.

Ingestion: If swallowed : Get medical attention immediately.

Do NOT induce vomiting. Rinse mouth with water.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.

Most important symptoms/effects, acute and delayed:

Indication of immediate medical attention and special treatment needed

Note To Physicians: No hazards which require special first aid measures.

Notes from Section 4: General advice : Move out of dangerous area.

Consult a physician.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

Most important symptoms and effects, both acute anddelayed: Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the

material through the skin may include:

stomach or intestinal upset (nausea, vomiting, diarrhea)

irritation (nose, throat, airways)

Cough
Drowsiness
Shortness of breath

Difficulty in breathing
May cause an allergic skin reaction.

Causes serious eye damage.
Suspected of damaging fertility. Suspected of damaging theunborn child.
Causes damage to organs through prolonged or repeated exposure if inhaled.

Causes severe burns.

Section 5: Firefighting Measures

Suitable and unsuitable extinguishing media

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the

surrounding environment.

Water spray Foam

Carbon dioxide (CO2)

Dry chemical

Unsuitable Media: High volume water jet

Specific hazards arising from the chemical

Hazardous Combustion carbon dioxide and carbon monoxide

Products: Hydrocarbons

phenols

Nitrogen oxides (NOx)

Ammonia formaldehyde

nitrogen oxides (NOx)

sulfur oxides
acid vapors
carboxylic acids
Methanol

silicone polymers silicon dioxide various hydrocarbons

Hydrogen

organic compounds

Special protective equipment and precautions for fire-fighters

Fire Fighting Instructions: Specific hazards during firefighting: Do not allow run-off from fire fighting to enter

drains or water courses.

Fire Fighting Equipment: Special protective equipment for firefighters: In the event of fire, wear self-

contained breathing apparatus.

NFPA Health: 3
NFPA Fire: 1
NFPA Reactivity: 0

Notes from Section 5: Specific extinguishing methods: Product is compatible with standard fire-fighting

agents.

Further information: Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personnel Precautions: Personal precautions, protective equipment and emergency procedures: Use

personal protective equipment.

Persons not wearing protective equipment should be excluded from area of spill

until clean-up has been completed.

Methods and materials for containment and cleaning up

Methods for Containment: Soak up with inert absorbent material (e.g. sand, silica gel,

acid binder, universal binder, sawdust).

Keep in suitable, closed containers for disposal.

Methods for Cleanup: Soak up with inert absorbent material (e.g. sand, silica gel,

acid binder, universal binder, sawdust).

Keep in suitable, closed containers for disposal.

Environmental precautions

Environmental Precautions: Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

If the product contaminates rivers and lakes or drains informrespective authorities.

Notes from Section 6: Other information: Comply with all applicable federal, state, and local regulations.

Section 7: Handling and Storage

Precautions for safe handling

Handling: Do not breathe vapours/dust.

Do not smoke.

Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this

mixture is beingused.

Container hazardous when empty.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

Smoking, eating and drinking should be prohibited in theapplication area.

For personal protection see section 8.

Dispose of rinse water in accordance with local and national regulations.

Hygiene Practices: Hygiene measures: Wash hands before breaks and at the end of workday.

When using do not eat or drink.

Ensure that eyewash stations and safety showers are close to the workstation

location.

When using do not smoke.

Conditions for safe storage, including any incompatibilities

Storage: Conditions for safe storage: Keep container tightly closed in a dry and well-

ventilated place.

Containers which are opened must be carefully resealed andkept upright to

prevent leakage.

Observe label precautions.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines

Exposure Guidelines - Ingredient Based:

PART A :TALC:

TWA: 20 Million particles per cubic foot Dust OSHA Z-3

TWA: 2 mg/m3 respirable dust fraction OSHA PO

TWA: 2 mg/m3 Respirable NIOSH REL

PEL: 2 mg/m3 Respirable dust CAL PEL

TWA: 0.1 fibres per cubic centimeter ACGIH

TWA: 2 mg/m3 Respirable fraction ACGIH

PART B:TALC:

TWA: 20 Million particles per cubic foot Dust OSHA Z-3

TWA: 2 mg/m3 respirable dust fraction OSHA PO

TWA: 2 mg/m3 Respirable NIOSH REL

PEL: 2 mg/m3 Respirable dust CAL PEL

TWA: 0.1 fibres per cubic centimeter ACGIH

TWA: 2 mg/m3 Respirable fraction ACGIH

PART B :POLYPROPYLENE GLYCOL:

TWA: 10 mg/m3 aerosol US WEEL

Appropriate engineering controls

Engineering Controls: Provide sufficient mechanical (general and/or local exhaust) ventilation to

maintain exposure below exposure guidelines (if applicable) or below levels that

cause known, suspected or apparent adverse effects.

Individual protection measures

Eye Protection: Wear chemical splash goggles and face shield when there is potential for exposure

of the eyes or face to liquid, vapor ormist.

Maintain eye wash station in immediate work area.

Skin Protection: Skin and body protection: Wear as appropriate:Impervious clothing

Chemical resistant apron

Safety shoes

Choose body protection according to the amount and concentration of the

dangerous substance at the work place.

Discard gloves that show tears, pinholes, or signs of wear. Wear resistant gloves (consult your safety equipmentsupplier).

Hand Protection: Remarks : The suitability for a specific workplace should be discussed with the

producers of the protective gloves.

Hygiene Practices: Hygiene measures: Wash hands before breaks and at the end of workday.

When using do not eat or drink.

Ensure that eyewash stations and safety showers are close to the workstation

location.

When using do not smoke.

Section 9: Physical and Chemical Properties

Physical and chemical properties

Physical State: PART A: liquid

 ${\bf Appearance}: {\sf paste}$

PART B:liquid

Color: PART A:dark violet

PART B:tan

Odor: PART A:very faint

PART B:No data available

pH: PART A:Not applicable

PART B:

Melting Temperature: PART A:No data available

PART B:No data available

Boiling Temperature: PART A:No data available

PART B:No data available

Flash Point: PART A:> 220 °F

PART B:> 104 °C

Flash Point Method: PART A:closed cup

PART B:closed cup

Ignition Temperature: PART A:No data available

PART B:No data available

Lower Flammable Limit: PART A:No data available

PART B:No data available

Upper Flammable Limit: PART A:No data available

PART B:No data available

Decomposition Temperature: PART A:Thermal decomposition : No data available

PART B:Thermal decomposition : No data available

Vapor Pressure: PART A:No data available

PART B:No data available

Vapor Density: PART A:Relative vapour density : No data available

PART B:Relative vapour density: No data available

Freezing Temperature: PART A:No data available

PART B:No data available

Density: PART A: No data available

Relative density: 1.16 PART B: 1.06 g/cm3 (23 °C)

Relative density: No data available

Solubility: PART A:Solubility in other solvents: No data available

PART B:Solubility in other solvents : No data available

Solubility In Water: PART A:No data available

PART B:No data available

Evaporation Rate: PART A:No data available

PART B:No data available

Viscosity: PART A: Viscosity, kinematic: No data available

PART B: Viscosity, kinematic: No data available

Odor Threshold: PART A:No data available

PART B:No data available

Octanol Water Partition Coef: PART A:No data available

PART B:No data available

Dynamic Viscosity: PART A:No data available

PART B:No data available

Oxidizing Properties: PART A:No data available

PART B:No data available

Section 10: Stability and Reactivity

Reactivity:

Reactivity: No decomposition if stored and applied as directed.

Possibility of hazardous reactions: Product will not undergo hazardous

polymerization.

Chemical Stability:

Chemical Stability: Stable under recommended storage conditions.

Possibility of hazardous reactions:

Conditions To Avoid:

Conditions To Avoid: Exposure to air.

Exposure to moisture

Incompatible Materials:

Incompatible Materials: Acids

Amines Bases isocyanates

Nitrogen oxides (NOx)
Oxidizing agents

peroxides

sodium hypochlorite

water Peroxides

Hazardous Decomposition

Products:

Alcohols

Aldehydes

carbon dioxide and carbon monoxide

carboxylic acids

ethers

formaldehyde-like Hydrocarbons

Hydrogen cyanide (hydrocyanic acid)

Methanol

Nitrogen oxides (NOx) organic compounds

phenols

silicone polymers Sulphur oxides Ammonia ketones silicon dioxide various hydrocarbons

Section 11: Toxicological Information

Toxicological Information:

Product:

Acute Toxicity: Not classified based on available information.

Route of Exposure: Inhalation

Skin contact Eye Contact

IngestionThis product is an inert plastic when fully cured, and as such, is nonhazardous. Exposure to unreacted chemicals can occur when handling the individual components in pails or when using cartridges from the time of dispensing until the mixed material has cured. The mixed material is actually curing as it is dispensed in an increasingly viscous form, making it unlikely to present an inhalation hazard. The semiviscous mixture does not flow like a liquid when dispensed, thus minimizing the possibility of accidental skin contact.

Carcinogenicity: Not classified based on available information.

Mutagenicity: Not classified based on available information.

Reproductive Toxicity: Suspected of damaging fertility. Suspected of damaging the unborn child.

Irritation: Skin corrosion/irritation

Causes severe burns.

Product:

Remarks: May cause skin irritation in susceptible persons., Causes severe skin

burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Product:

Remarks: May cause irreversible eye damage.

Sensitization: Skin sensitisation: May cause an allergic skin reaction.

Respiratory sensitisation: Not classified based on available information.

IARC Carcinogen: No component of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

NTP Carcinogen: No component of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

Notes from Section 11: Further information

Product:

Remarks: No data available

PART B:2-PROPENENITRILE, POLYMER WITH 1,3-BUTADIENE, 1-C:

Skin Toxicity: LD50 (Rabbit): > 3 g/kg

Ingestion Toxicity: LD50 (Rat): > 15 g/kg

Irritation: Skin corrosion/irritation

Result: Irritating to skin.

Serious eye damage/eye irritation

Result: Irritating to eyes.

Sensitization: Test Type: Maximisation Test

Species: Guinea pig

 $\label{lem:assessment: May cause sensitisation by skin contact.}$

Method: OECD Test Guideline 406

PART B :POLYPROPYLENE GLYCOL:

Skin Toxicity: LD50 (Rabbit): > 3,000 mg/kg

Assessment: Not classified as acutely toxic by dermalabsorption under GHS.

Ingestion Toxicity: LD50 (Rat): > 2,000 mg/kg

Assessment: Not classified as acutely toxic by ingestion under GHS.

Irritation: Skin corrosion/irritation

Result: Slight, transient irritation

Serious eye damage/eye irritation Result: Slight, transient irritation

PART B :ALKYLAMINE:

Skin Toxicity: LD50 (Rabbit): 866 mg/kg

Ingestion Toxicity: LD50 (Rat): 2,097 mg/kg

Assessment: The component/mixture is classified as acute oral toxicity,

category 4.

Chronic Toxicity: Repeated dose toxicity

Species: Rat NOAEL: 152 mg/kg Application Route: Oral

Method: OECD Test Guideline 422

Species: Rat

NOAEL: 1,000 mg/kg Application Route: Dermal Method: OECD Test Guideline 410

Irritation: Skin corrosion/irritation

Result: Corrosive to skin

Serious eye damage/eye irritation

Result: Corrosive

Sensitization: Test Type: Maximisation Test

Species: Guinea pig

Assessment: May cause sensitisation by skin contact.

Method: OECD Test Guideline 406

Result: May cause sensitisation by skin contact.

PART B :2,4,6- TRIS(DIMETHYLAMINOMETHYL)PHENOL:

Ingestion Toxicity: LD50 (Rat): 2,169 mg/kg

Method: OECD Test Guideline 401

Irritation: Skin corrosion/irritation

Result: Corrosive after 1 to 4 hours of exposure

Serious eye damage/eye irritation

Result: Corrosive

PART A: EPOXY RESIN C:

Skin Toxicity: LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: Not classified as acutely toxic by dermal absorption under GHS.

Ingestion Toxicity: LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 420

Assessment: No adverse effect has been observed in acute oral toxicity tests.

Mutagenicity: Genotoxicity in vitro: Test Type: in vitro assay

Test species: Rodent cell line

Metabolic activation: without metabolic activation

Result: positive

Test Type: in vitro assay
Test species: Rodent cell line

Metabolic activation: with metabolic activation

Result: negative

Test Type: Ames test

Metabolic activation: with and without metabolic activation

Result: negative

Genotoxicity in vivo: Test Type: in vivo assay

Test species: Mouse (male) Application Route: Ingestion

Result: negative

Irritation: Skin corrosion/irritation

Result: Slight, transient irritation

Serious eye damage/eye irritation

Result: Slight, transient irritation

Sensitization: Test Type: Local lymph node assay

Assessment: The product is a skin sensitiser, sub-category 1B.

Method: OECD Test Guideline 429

Result: The product is a skin sensitiser, sub-category 1B.

PART A: ALKYLPHENOL:

Skin Toxicity: LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Ingestion Toxicity: LD50 (Rat): > 2,000 - < 5,000 mg/kg

Method: OECD Test Guideline 401

Mutagenicity: Genotoxicity in vitro: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Reproductive Toxicity: Reproductive toxicity - Assessment : Some evidence of adverse effects on

development, based on animal experiments., Suspected of damaging fertility.

Suspected of damaging the unborn child.

Irritation: Skin corrosion/irritation

Species: Rabbit

Method: OECD Test Guideline 404

Result: Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

Result: Corrosive

Sensitization: Test Type: Local lymph node assay

Species: Mouse

Assessment: The product is a skin sensitiser, sub-category 1B.

Method: OECD Test Guideline 429

PART B :DIETHYLENE GLYCOL DI(AMINOPROPYL)ETHER:

Skin Toxicity: LD50 (Rabbit): Estimated > 2,500 mg/kg

LD50 (Rat): > 2,150 mg/kg

Method: OECD Test Guideline 402

Ingestion Toxicity: LD50 (Rat): ca. 3,160 mg/kg

Irritation: Skin corrosion/irritation

Result: Corrosive to skin

Serious eye damage/eye irritation

Result: Corrosive

Sensitization: Assessment: May cause sensitisation by skin contact.

PART A :TALC:

Mutagenicity: Genotoxicity in vitro: Test Type: In vitro gene mutation study in bacteria

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Test Type: In vitro gene mutation study in bacteria

Test species: Saccharomyces cerevisiae

Metabolic activation: with and without metabolic activation

Result: negative

Genotoxicity in vivo: Test Type: dominant lethal test

Test species: Rat (male) Cell type: Bone marrow Result: negative

PART B:POLYOXYPROPYLENEDIAMINE:

Skin Toxicity: LD50 (Rabbit): 2,979 mg/kg

Method: OECD Test Guideline 402

Ingestion Toxicity: LD50 (Rat): 2,885 mg/kg

Method: OECD Test Guideline 401

Mutagenicity: Genotoxicity in vitro : Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Genotoxicity in vivo: Test Type: chromosome aberration assay

Test species: Mouse Cell type: Bone marrow

Method: OECD Test Guideline 474

Result: negative

Irritation: Skin corrosion/irritation

Result: Corrosive, category 1C - where responses occur after exposures

between 1 hour and 4 hours and observations up to 14 days.

Serious eye damage/eye irritation

Result: Corrosive

PART A :3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER:

Skin Toxicity: LD50 (Rabbit): 4,250 mg/kg

Ingestion Toxicity: LD50 (Rat): 8,025 mg/kg

Method: OECD Test Guideline 401

Inhalation Toxicity: LC50 (Rat): > 5.3 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: OECD Test Guideline 403

Mutagenicity: Genotoxicity in vitro: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: Mutagenicity (Salmonella typhimurium - reversemutation assay)

Result: positive

Test species: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: positive

Test species: Chinese hamster ovary cells Method: OECD Test Guideline 479

Result: positive

Genotoxicity in vivo: Test Type: In vivo micronucleus test

Test species: Mouse (male and female)

Cell type: Bone marrow

Application Route: Intraperitoneal Method: OECD Test Guideline 474

Result: positive

Irritation: Skin corrosion/irritation

Result: Slight, transient irritation

Serious eye damage/eye irritation

Result: Irreversible effects on the eye

Sensitization: Species: Guinea pig

Assessment: Did not cause sensitisation on laboratory animals.

PART A :BISPHENOL A, DIGLYCIDYL ETHER POLYMER:

Skin Toxicity: LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Ingestion Toxicity: LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 420

Irritation: Skin corrosion/irritation

Species: Rabbit

Method: OECD Test Guideline 404

Result: irritating

Serious eye damage/eye irritation

Species: Rabbit Result: irritating

Method: OECD Test Guideline 405

Sensitization: Test Type: Local lymph node assay

Species: Mouse

Assessment: May cause sensitisation by skin contact.

Method: OECD Test Guideline 429

ACGIH Carcinogen: No component of this product present at levels greater than or equal to 0.1%

is on OSHA's list of regulated carcinogens.

PART B :TALC:

D50 (Rat): > 5,000 mg/kg Ingestion Toxicity:

Method: OECD Test Guideline 423

Irritation: Skin corrosion/irritation

Species: reconstructed human epidermis (RhE)Result: No skin irritation

Serious eye damage/eye irritation

Species: Rabbit

Result: Slight, transient irritation Method: OECD Test Guideline 405

Sensitization: Test Type: Maximisation TestSpecies: Guinea pigAssessment: Did not cause

sensitisation on laboratory animals. Method: OECD Test Guideline 406

Result: Did not cause sensitisation on laboratory animals.

PART B : Amine terminated polymer:

Skin Toxicity: LD50 (Rabbit): > 3 g/kg

Remarks: Information given is based on data obtained from similar

substances.

Ingestion Toxicity: LD50 (Rat): > 15.4 g/kg

Remarks: Information given is based on data obtained fromsimilar

substances.

Irritation: Skin corrosion/irritation

Result: Irritating to skin.

Remarks: Information given is based on data obtained from similar

substances.

Serious eye damage/eye irritation Result: Slight, transient irritation

Remarks: Information given is based on data obtained from similar

substances.

Sensitization: Species: Guinea pig

Assessment: May cause sensitisation by skin contact.

Method: OECD Test Guideline 406

PART B :POLY[OXY(METHYL-1,2- ETHANEDIYL)], .ALPHA.,.ALPHA.:

Skin Toxicity: LD50 (Rabbit): 12,500 mg/kg

Ingestion Toxicity: LD50 (Rat): 2,690 mg/kg

Irritation: Skin corrosion/irritation

Result: Irritating to skin.

Serious eye damage/eye irritation

Result: Corrosive

Section 12: Ecological Information

Ecotoxicity:

Product:

Effect of Material On Aquatic: **Ecotoxicology Assessment**

Acute aquatic toxicity: Acute aquatic toxicity Category 2; Toxic to aquatic life.

Chronic aquatic toxicity: Chronic aquatic toxicity

Category 2; Toxic to aquatic life with long lasting effects.

PART B:2-PROPENENITRILE, POLYMER WITH 1,3-BUTADIENE, 1-C:

Effect of Material On Aquatic: Toxicity to daphnia and other aquatic invertebrates: EC50 (Aquatic

invertebrates): > 1,000 mg/l

Exposure time: 48 h

Toxicity to algae: EC50 (green algae): > 1,000 mg/l

Exposure time: 72 h

PART B :POLYPROPYLENE GLYCOL:

Effect of Material On Aquatic: Toxicity to fish: LC50 (Lepomis macrochirus (Bluegill sunfish)): 1,700 mg/l

Exposure time: 96 h Method: Static Remarks: Mortality

LC50 (Menidia beryllina (Silverside)): 650 mg/l

Exposure time: 96 h Method: Static Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna

(Water flea)): > 100 mg/l Exposure time: 48 h

PART B : ALKYLAMINE:

Effect of Material On Aquatic: Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 2,190 mg/l

Exposure time: 96 h Test Type: static test

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna

(Water flea)): 58 mg/l Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae: EC50 (Pseudokirchneriella subcapitata (green algae)):

>1,000 mg/l

End point: Growth inhibition Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

PART B:2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL:

Effect of Material On Aquatic: Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 180 - <

240mg/l

Exposure time: 96 h Test Type: static test

Toxicity to algae: EC50 (Desmodesmus subspicatus

(green algae)): 84 mg/l End point: Growth inhibition

Exposure time: 72 h

PART A : EPOXY RESIN C:

Effect of Material On Aquatic: Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 2.7 mg/l

Exposure time: 96 h
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna

(Water flea)): 2.8 mg/l Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae: EC50 (Pseudokirchneriella subcapitata (green algae)):

4.2mg/l

Exposure time: 72 h

Toxicity to daphnia and otheraquatic invertebrates (Chronic toxicity): NOEC

(Daphnia magna (Water flea)): 0.3 mg/l

Exposure time: 21 d Test Type: semi-static test Method: OECD Test Guideline 211

PART A: ALKYLPHENOL:

Effect of Material On Aquatic: Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 0.21 mg/l

Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna

(Water flea)): 0.64 mg/l Exposure time: 48 h Test Type: semi-static test Method: OECD Test Guideline 202

Toxicity to algae: EC50 (Pseudokirchneriella subcapitata (microalgae)): 1.4

mg/l

End point: Growth inhibition Exposure time: 72 h Test Type: semi-static test Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (microalgae)): 0.11mg/l

End point: Growth inhibition
Exposure time: 72 h
Test Type: semi-static test
Method: OECD Test Guideline 201
M-Factor (Acute aquatictoxicity): 1
M-Factor (Chronic aquatictoxicity): 1

PART B :DIETHYLENE GLYCOL DI(AMINOPROPYL)ETHER:

Effect of Material On Aquatic: Toxicity to fish: LD50 (Leuciscus idus (Golden orfe)): > 1,000 mg/l

Exposure time: 96 h Test Type: static test

Test substance: Neutralised product

Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna

(Water flea)): 218.16 mg/l Exposure time: 48 h Test Type: static test

Method: Directive 67/548/EEC, Annex V, C.2.

PART B: POLYOXYPROPYLENEDIAMINE:

Effect of Material On Aquatic: Toxicity to fish : EC50 (Oncorhynchus mykiss (rainbow trout)): 772 mg/l

Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203

Toxicity to daphnia and otheraquatic invertebrates: EC50 (Daphnia magna

(Water flea)): 80 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae: ErC50 (Pseudokirchneriella subcapitata (microalgae)): 15

mg/l

End point: Growth inhibition Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (microalgae)): 0.32mg/l

End point: Growth inhibition Exposure time: 72 h Test Type: static test

Method: Directive 67/548/EEC, Annex V, C.3.

PART A :3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER:

Effect of Material On Aquatic: Toxicity to fish: LC50 (Cyprinus carpio (Carp)): 55 mg/lExposure time: 96 h

Test Type: semi-static testToxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia (water flea)): 324 mg/lExposure time: 48 hTest Type: static testToxicity to algae: EC50 (Pseudokirchneriella subcapitata (microalgae)): 350 mg/lExposure time: 96 h Test Type: static testToxicity to daphnia and other aquatic invertebrates(Chronic toxicity): NOEC (Daphnia (water flea)):

100 mg/lExposure time: 21 d $\,$

PART A :BISPHENOL A, DIGLYCIDYL ETHER POLYMER:

Effect of Material On Aquatic: Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 1.2

mg/IExposure time: 96 hTest Type: semi-static testToxicity to daphnia and other aquatic invertebrates: LC50 (Daphnia (water flea)): 2.7 mg/IExposure time: 48 hTest Type: static testToxicity to algae: EC50 (Scenedesmus quadricauda (Green algae)): 9.4 mg/IEnd point: Growth inhibitionExposure

time: 72 hTest Type: static test

PART B : Amine terminated polymer:

Effect of Material On Aquatic: Toxicity to daphnia and other aquatic invertebrates: EC50 (Aquatic

invertebrates): > 1,000 mg/l

Exposure time: 48 h

Remarks: Information given is based on data obtained fromsimilar

substances.

Toxicity to algae : EC50 (green algae): > 1,000 mg/l

Exposure time: 72 h

Remarks: Information given is based on data obtained fromsimilar

substances.

PART B:POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA.,.ALPHA.:

Effect of Material On Aquatic: Toxicity to fish: LC50 (Fish): 68 mg/l

Exposure time: 96 h

Persistence and degradability:

Product:

Biodegredation: No data available

PART B:2-PROPENENITRILE, POLYMER WITH 1,3-BUTADIENE, 1-C:

Biodegradability: Result: Not readily biodegradable.

PART B:POLYPROPYLENE GLYCOL:

Biodegredation: Biodegradability: Biodegradation: 65 %

Exposure time: 20 d

Method: OECD Test Guideline 301F

PART B :ALKYLAMINE:

Biodegredation: Biodegradability: aerobic

Inoculum: activated sludge

Result: Not readily biodegradable.

Biodegradation: 0 % Exposure time: 28 d

Method: OECD Test Guideline 301F

PART B: 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL:

Biodegradability: Result: Not readily biodegradable.

Biodegradation: 4 % Exposure time: 28 d

Method: OECD Test Guideline 301D

PART A: EPOXY RESIN C:

Biodegradability: Result: Not readily biodegradable.

Biodegradation: 5 % Exposure time: 28 d

Method: OECD Test Guideline 301F

Biodegradation: 82 % Exposure time: 28 d Method: Abiotic degradation

Physico-chemical removability: Remarks: The product can be degraded by

abiotic (e.g.chemical or photolytic) processes.

PART A: ALKYLPHENOL:

Biodegradability : aerobic

Inoculum: activated sludge Result: Not readily biodegradable.

Biodegradation: 0 % Exposure time: 28 d

Method: OECD Test Guideline 301B

PART B :DIETHYLENE GLYCOL DI(AMINOPROPYL)ETHER:

Biodegradability: Result: Not readily biodegradable.

Biodegradation: < 10 % Exposure time: 60 d

Method: OECD Test Guideline 301B

PART B:POLYOXYPROPYLENEDIAMINE:

Biodegradability: Result: Not readily biodegradable.

Biodegradation: 0 % Exposure time: 28 d

Method: OECD Test Guideline 301B

PART A :3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER:

Biodegradability: aerobic

Result: Not readily biodegradable.

Biodegradation: 37 % Exposure time: 28 d

GLP: yes

PART A :BISPHENOL A, DIGLYCIDYL ETHER POLYMER:

Biodegredation: Biodegradability: aerobic

Inoculum: activated sludge Result: Not readily biodegradable.

Biodegradation: 5 % Exposure time: 28 d

Method: OECD Test Guideline 301F

PART B:TALC:

Biodegradability: Result: The methods for determining biodegradability are

not applicable to inorganic substances.

PART B : Amine terminated polymer:

Biodegradability: Result: Not readily biodegradable.

PART B:POLY[OXY(METHYL-1,2-ETHANEDIYL)], .ALPHA.,.ALPHA.:

Biodegradability: Result: Not readily biodegradable.

Biodegradation: < 5 % Exposure time: 28 d

Bioaccumulative potential:

Product:

BioAccumulation: No data available

PART A:3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER:

BioAccumulation: Partition coefficient: noctanol/water : log Pow: Estimated 0.5 (20 °C)

PART B :ALKYLAMINE:

BioAccumulation: Bioaccumulation : Bioconcentration factor (BCF): < 7

Method: OECD Test Guideline 305C

Remarks: Information given is based on data obtained fromsimilar

substances.

PART B :POLY[OXY(METHYL-1,2- ETHANEDIYL)], .ALPHA.,.ALPHA.:

BioAccumulation: Partition coefficient: noctanol/water : log Pow: 1.34

Method: OECD Test Guideline 117

Mobility in soil:

Product:

Mobility In Environmental Mobility in soil

Media: Components:

No data available

Notes from Section 12: Other adverse effects

No data available

Product:

Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long

lasting effects.

Section 13: Disposal Considerations

Description of waste:

Waste Disposal: General advice: The product should not be allowed to enter drains, water courses

or the soil.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated Packaging: Empty remaining contents.

Dispose of as unused product.

Empty containers should be taken to an approved waste handling site for recycling

or disposal.

Do not re-use empty containers.

Section 14: Transport Information

Transportation: MX_DG

Shipping Name: Amines, liquid, corrosive, n.o.s.

UN Number: UN 2735 Hazard Class: 8

Packing Group: II*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant yes

Dangerous goods descriptions (if indicated above) may not reflect quantity, enduse or region-specific exceptions that can be applied. Consult shipping documents

for descriptions that are specific to theshipment.

DOT Shipping Name: Amines, liquid, corrosive, n.o.s. (ALIPHATIC AMINE, POLYOXYPROPYLENEDIAMI NE)

DOT UN Number: UN 2735

DOT Hazard Class: 8
DOT Packing Group: II

DOT Other: CFR_RAIL_C

Shipping Name: Amines, liquid, corrosive, n.o.s.

UN Number: UN 2735 Hazard Class: 8 Packing Group: II

U.S. DOT - INLAND WATERWAYS

Shipping Name: Amines, liquid, corrosive, n.o.s.

UN Number: UN 2735 Hazard Class: 8 Packing Group: II

IMDG Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (ALIPHATIC AMINE,

POLYOXYPROPYLENEDIAMI NE)

IMDG UN Number: UN 2735

IMDG Hazard Class: 8
IMDG Packing Group: II

IMDG Other: MARINE POLLUTANT / LTD. QTY.:MARINE POLLUTANT:(BISPHENOL AEPICHLOROH

YDRIN POLYMER)

IATA Shipping Name: Amines, liquid, corrosive, n.o.s. (ALIPHATIC AMINE, POLYOXYPROPYLENEDIAMI NE)

IATA UN Number: UN 2735

IATA Hazard Class: 8
IATA Packing Group: II

IATA Other: PASSENGER

Shipping Name: Amines, liquid, corrosive, n.o.s. (ALIPHATIC AMINE,

POLYOXYPROPYLENEDIAMI NE)

UN Number: UN 2735 Hazard Class: 8 Packing Group: II

Canada Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S.

Canada UN Number: UN 2735

Canada Hazard Class: 8

Canada Other:

Packing Group: II

TDG RAIL C

Shipping Name: Amines, liquid, corrosive, n.o.s.

UN Number: UN 2735 Hazard Class: 8 Packing Group: II

TDG_INWT_C

Shipping Name: Amines, liquid, corrosive, n.o.s.

UN Number: UN 2735 Hazard Class: 8 Packing Group: II

Section 15: Regulatory Information

Safety, health and environmental regulations specific for the product:

Regulatory - Product Based:

PART A :SARA 304 Extremely Hazardous Substances Reportable Quantity:

This material does not contain any components with a section 304 EHS RQ.

PART A: SARA 311/312 Hazards:

Skin corrosion or irritation

Serious eye damage or eye irritation Respiratory or skin sensitisation

PART A :SARA 302:

This material does not contain any components with a section 302 EHS TPQ.

PART A: SARA 313:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title

III, Section 313.

PART A: California Prop 65:

WARNING! This product contains a chemical known to the State of California to

cause cancer. TALC 14807-96-6

QUARTZ / SAND 14808-60-7 ACRYLONITRILE 107-13-1 1,3, BUTADIENE 106-99-0

WARNING: This product contains a chemical known to the State of California to

cause birth defects or other reproductive harm.

METHANOL 67-56-1 1,3, BUTADIENE 106-99-0 PART B : EPCRA - Emergency Planning and Community Right-to-**Know Act:**

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ. SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

PART B: SARA 311/312 Hazards:

Skin corrosion or irritation

Serious eye damage or eye irritation Respiratory or skin sensitisation

Reproductive toxicity

Specific target organ toxicity (single or repeated exposure)

PART B: SARA 302:

This material does not contain any components with a section 302 EHS TPQ.

PART B: SARA 313:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title

III, Section 313.

PART B: California Prop 65:

WARNING! This product contains a chemical known to the State of California to cause cancer.

TALC 14807-96-6

QUARTZ / SAND 14808-60-7 PROPYLENE OXIDE 75-56-9

PART B: The components of this product are reported in the following inventories::

DSL: This product contains one or several components that are not on the

Canadian DSL and have annual quantity limits. AICS: Not in compliance with the inventory

ENCS: Exempt

KECI: Not in compliance with the inventory PICCS: Not in compliance with the inventory IECSC: Not in compliance with the inventory

TSCA: On TSCA inventory

PART B: Inventories:

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI

(Taiwan), TSCA (USA)

PART B: Registration: Trade secret:

> Chemical name Identification number Amine terminated polymer 254504001-6317

ALKYLPHENOL 254504001-6318 ALKYLAMINE 254504001-6322

Regulatory - Ingredient Based:

PART A: ALKYLPHENOL:

PART A: EPCRA - Emergency Planning and Community Right-to- Component RQ (lbs):5000

Know Act:

CERCLA Reportable Quantity Calculated product RQ (lbs):*

*: Calculated RQ exceeds reasonably attainable upper limit.

Section 16: Additional Information

Creation Date: 2019-01-09

Revision Date: 2019-01-25 18:32:00

Author: Enviance

Notes from Section 16: Full text of H-Statements

PART A

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation.

PART B

H302 Harmful if swallowed. H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eve damage. H319 Causes serious eye irritation.

H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure if inhaled.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :ACGIH: American Conference of Industrial Hygienists

BEI: Biological Exposure Index

CAS: Chemical Abstracts Service (Division of the American Chemical Society).

CMR: Carcinogenic, Mutagenic or Toxic for Reproduction

FG: Food grade

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement: Hazard Statement

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport

Association" (IATA).

ICAO: International Civil Aviation Organization

ICAO-TI (ICAO): Technical Instructions by the "International Civil Aviation

Organization"

IMDG: International Maritime Code for Dangerous Goods

ISO: International Organization for Standardization

logPow: octanol-water partition coefficient

LCxx: Lethal Concentration, for xx percent of test population

LDxx: Lethal Dose, for xx percent of test population. ICxx: Inhibitory Concentration for xx of a substance

Ecxx: Effective Concentration of xx N.O.S.: Not Otherwise Specified

OECD: Organization for Economic Co-operation and Development

OEL: Occupational Exposure Limit P-Statement: Precautionary Statement PBT: Persistent, Bioaccumulative and Toxic

PPE: Personal Protective Equipment STEL: Short-term exposure limit STOT: Specific Target Organ Toxicity

TLV: Threshold Limit Value TWA: Time-weighted average

vPvB: Very Persistent and Very Bioaccumulative

WEL: Workplace Exposure Level

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

DOT: Department of Transportation

FIFKA: Federal Insecticide, Fungicide, and Kodenticide Act

HMIRC: Hazardous Materials Information Review Commission

HMIS: Hazardous Materials Identification System NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration PMRA: Health Canada Pest Management Regulatory Agency

RTK: Right to Know

WHMIS: Workplace Hazardous Materials Information System

Comments from Section 16:

Combustible Liquid Class IIIB

NFPA:



Other Information:

Copyright © 1996-2019 Enviance Inc. All Rights Reserved.