

**SECTION 1. IDENTIFICATION**

Product name	:	Sikadur®-53 CA Part A
Other means of identification	:	No data available
Company name	:	601, avenue Delmar Canada Pointe-Claire, QC H9R 4A9 Sika Canada Inc. www.sika.ca
Telephone	:	(514) 697-2610 / 1 (800) 933-7452
Telefax	:	(514) 694-2792
E-mail address	:	ehs@ca.sika.com
Emergency telephone	:	CANUTEC (collect) (613) 996-6666 (24 hours)
Recommended use of the chemical and restrictions on use	:	For further information, refer to product data sheet.

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the Hazardous Products Regulations**

Skin irritation	:	Category 2
Eye irritation	:	Category 2A
Skin sensitization	:	Category 1
Carcinogenicity (Inhalation)	:	Category 1A
Reproductive toxicity	:	Category 2
Specific target organ toxicity - repeated exposure	:	Category 1 (Lungs)

GHS label elements

Hazard pictograms	:	
Signal Word	:	Danger
Hazard Statements	:	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation.



H350 May cause cancer by inhalation.
 H361 Suspected of damaging fertility or the unborn child.
 H372 Causes damage to organs (Lungs) through prolonged or repeated exposure.

Precautionary Statements :

Prevention:

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 should not be allowed out of the workplace.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
 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.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:

P405 Store locked up.

Disposal:

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

Additional Labeling

There are no ingredients with unknown acute toxicity used in a mixture at a concentration $\geq 1\%$.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**Components**

Chemical name	CAS-No.	Classification	Concentration (% w/w)
bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6	Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Skin Sens. 1; H317	$\geq 10 - < 30$



oxirane, mono[(C12-14-alkyloxy)methyl]derivatives	68609-97-2	Skin Irrit. 2; H315 Skin Sens. 1; H317	>= 1 - < 5
Phenol, 4-nonyl, branched	84852-15-3	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Repr. 2; H361	>= 1 - < 5
Quartz (SiO2)	14808-60-7	Carc. 1A; H350i STOT RE 1; H372 STOT SE 3; H335	>= 1 - < 5

Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not induce vomiting without medical advice.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Obtain medical attention.
- Most important symptoms and effects, both acute and delayed : irritant effects
sensitizing effects
Allergic reactions
Excessive lachrymation
Erythema
Dermatitis
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause cancer by inhalation.
Suspected of damaging fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
- Notes to physician : Treat symptomatically.



SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Deny access to unprotected persons.
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.
- Conditions for safe storage : Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.



Observe label precautions.
Store in accordance with local regulations.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
barium sulfate	7727-43-7	TWA	10 mg/m ³	CA AB OEL
		TWA (Inhalable)	5 mg/m ³	CA BC OEL
		TWAEV (respirable dust)	5 mg/m ³	CA QC OEL
		TWAEV (total dust)	10 mg/m ³	CA QC OEL
		TWA (Inhalable particulate matter)	5 mg/m ³	ACGIH
Quartz (SiO ₂)	14808-60-7	TWA (Respirable particulates)	0.025 mg/m ³	CA AB OEL
		TWA (Respirable fraction)	0.1 mg/m ³	CA ON OEL
		TWAEV (respirable dust)	0.1 mg/m ³	CA QC OEL
		TWA (Respirable)	0.025 mg/m ³ (Silica)	CA BC OEL
		TWA (Respirable)	0.025 mg/m ³	CA BC OEL
		TWA (Respirable)	0.025 mg/m ³ (Silica)	CA BC OEL
		TWA (Respirable particulate matter)	0.025 mg/m ³	ACGIH
		TWA (Respirable particulate matter)	0.025 mg/m ³ (Silica)	ACGIH
		TWA (Respirable particulate matter)	0.025 mg/m ³	ACGIH
		TWA (Respirable particulate matter)	0.025 mg/m ³ (Silica)	ACGIH



Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : viscous liquid

Color : green

Odor : characteristic

Odor Threshold : No data available

pH : No data available

Melting point/range / Freezing point : No data available

Boiling point/boiling range : No data available



Flash point	:	> 100 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	0.01 hpa
Relative vapor density	:	No data available
Density	:	2.33 g/cm ³ (23.7 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm ² /s (40 °C)
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds (VOC) content	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available



Hazardous decomposition products : No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Components:

bisphenol-A-(epichlorhydrin) epoxy resin:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): > 20,000 mg/kg

Phenol, 4-nonyl, branched:

Acute dermal toxicity : LD50 Dermal (Rabbit): 3,160 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

May cause cancer by inhalation.

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Causes damage to organs (Lungs) through prolonged or repeated exposure.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity

Not classified based on available information.

Further information

Product:



Quartz (14808-60-7): This classification is relevant when exposed to Quartz (silicon dioxide) in dust or powder form only, including cured product that is subject to sanding, grinding, cutting, or other surface preparation activities.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

bisphenol-A-(epichlorhydrin) epoxy resin:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.8 mg/l
Exposure time: 48 h

Phenol, 4-nonyl, branched:

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.



SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	: UN 3082
Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s.
Class	: 9
Packing group	: III
Labels	: Miscellaneous
Packing instruction (cargo aircraft)	: 964
Packing instruction (passenger aircraft)	: 964

IMDG-Code

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class	: 9
Packing group	: III
Labels	: 9
EmS Code	: F-A, S-F
Marine pollutant	: no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

TDG

Not regulated as a dangerous good

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	: Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	: Canada. British Columbia OEL
CA ON OEL	: Ontario Table of Occupational Exposure Limits made under



CA QC OEL	:	the Occupational Health and Safety Act. Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWA EV	:	Time-weighted average exposure value
ADR	:	Accord européen relatif au transport international des marchandises Dangereuses par Route
CAS	:	Chemical Abstracts Service
DNEL	:	Derived no-effect level
EC50	:	Half maximal effective concentration
GHS	:	Globally Harmonized System
IATA	:	International Air Transport Association
IMDG	:	International Maritime Code for Dangerous Goods
LD50	:	Median lethal dose (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	:	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	:	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	:	Occupational Exposure Limit
PBT	:	Persistent, bioaccumulative and toxic
PNEC	:	Predicted no effect concentration
REACH	:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SVHC	:	Substances of Very High Concern
vPvB	:	Very persistent and very bioaccumulative

Notice to Reader:

The information contained in this Material Safety Data Sheet applies only to the actual Sika Canada product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Material Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed.

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Sikadur®-53 CA Part A



Revision Date 06/12/2020

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All sales of Sika products are subject to its current terms and conditions of sale available at www.sika.ca or 514-697-2610.

Revision Date : 06/12/2020
Prepared by : R & D of Sika Canada Inc.
Material number : 645882



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CA / Z8



SECTION 1. IDENTIFICATION

Product name : Sikadur®-53 CA Part B

Other means of identification : No data available

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Pointe-Claire, QC H9R 4A9
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E-mail address : ehs@ca.sika.com

Emergency telephone : CANUTEC (collect) (613) 996-6666 (24 hours)

Recommended use of the chemical and restrictions on use : For further information, refer to product data sheet.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

Skin sensitization : Sub-category 1A

Carcinogenicity : Category 2

Reproductive toxicity : Category 1B

Effects on or via lactation

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :



- Signal Word : Danger
- Hazard Statements : H227 Combustible liquid.
 H302 Harmful if swallowed.
 H304 May be fatal if swallowed and enters airways.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H351 Suspected of causing cancer.
 H360 May damage fertility or the unborn child.
 H362 May cause harm to breast-fed children.
- Precautionary Statements : **Prevention:**
 P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
 P263 Avoid contact during pregnancy and while nursing.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response:**
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
 P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
- Storage:**
 P403 Store in a well-ventilated place.
 P405 Store locked up.
- Disposal:**



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

Additional Labeling

There are no ingredients with unknown acute toxicity used in a mixture at a concentration $\geq 1\%$.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Benzyl alcohol	100-51-6	Acute Tox. 4; H302 Acute Tox. 4; H332 Eye Irrit. 2A; H319	$\geq 30 - < 60$
Isophoronediamine	2855-13-2	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317	$\geq 10 - < 30$
triethylenetetramine	112-24-3	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317	$\geq 10 - < 30$
solvent naphtha (petroleum), heavy arom.	64742-94-5	Carc. 2; H351 Asp. Tox. 1; H304	$\geq 10 - < 30$
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Skin Corr. 1C; H314 Eye Dam. 1; H318	$\geq 5 - < 10$
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	68082-29-1	Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1A; H317	$\geq 1 - < 5$
bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6	Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Skin Sens. 1; H317	$\geq 1 - < 5$
naphthalene	91-20-3	Acute Tox. 4; H302 Carc. 2; H351	$\geq 1 - < 5$
bis[(dimethylamino)methyl]phenol	71074-89-0	Skin Corr. 1B; H314	$\geq 1 - < 5$
2-(2-aminoethylamino)ethanol	111-41-1	Skin Corr. 1B; H314 Skin Sens. 1; H317 Repr. 1B; H360 Lact.H362 STOT SE 3; H335	$\geq 0.1 - < 1$
1-(2-aminoethyl)piperazyna	140-31-8	Acute Tox. 3; H311 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Repr. 2; H361 STOT RE 1; H372	$\geq 0.1 - < 1$



3,6,9-triazaundecamethylenediamine	112-57-2	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317	≥ 0.1 - < 1
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Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
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.
Keep eye wide open while rinsing.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not induce vomiting without medical advice.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : Health injuries may be delayed.
Risk of serious damage to the lungs (by aspiration).
corrosive effects
sensitizing effects
toxic effects for reproduction
Aspiration may cause pulmonary edema and pneumonitis.
Gastrointestinal discomfort
Allergic reactions
Dermatitis
Harmful if swallowed.
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
Causes serious eye damage.
Suspected of causing cancer.
May damage fertility or the unborn child.
May cause harm to breast-fed children.



Causes severe burns.
 Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO₂)
 Unsuitable extinguishing media : Water
 Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
 Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Deny access to unprotected persons.
 Environmental precautions : Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
 Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.
 Advice on safe handling : Do not breathe vapors or spray mist. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Pregnant women or women of child-bearing age should not be



exposed to this product.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Store in original container.
Keep in a well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : Explosives
Oxidizing agents
Poisonous gases
Dangerous when wet
Flammable solids
Organic peroxides
Poisonous liquids
Spontaneously Combustible Substances

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
triethylenetetramine	112-24-3	TWA	0.5 ppm 3 mg/m ³	CA ON OEL
naphthalene	91-20-3	TWA	10 ppm 52 mg/m ³	CA AB OEL
		STEL	15 ppm 79 mg/m ³	CA AB OEL
		TWA	10 ppm	CA BC OEL
		TWAEV	10 ppm 52 mg/m ³	CA QC OEL
		STEV	15 ppm 79 mg/m ³	CA QC OEL
		TWA	10 ppm	ACGIH

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.



The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

- Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
- Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove respiratory and skin/eye protection only after vapors have been cleared from the area.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : amber
- Odor : amine-like
- Odor Threshold : No data available
- pH : No data available
- Melting point/range / Freezing point : No data available
- Boiling point/boiling range : No data available
- Flash point : ca. 85 °C (185 °F)
(Method: closed cup)
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available
- Upper explosion limit / Upper flammability limit : No data available



Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	2 hpa
Relative vapor density	:	No data available
Density	:	1.01 g/cm ³ (23.7 °C (74.7 °F))
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	partly soluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 7 mm ² /s (40 °C (104 °F))
Explosive properties	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	No data available
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Harmful if swallowed.

**Components:****Benzyl alcohol:**

Acute oral toxicity : LD50 Oral (Rat): 1,620 mg/kg
Acute inhalation toxicity : LC50 (Rat): > 4.178 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Isophoronediamine:

Acute oral toxicity : LD50 Oral (Rat): 1,030 mg/kg
Acute inhalation toxicity : LC50 (Rat): > 5.01 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Acute dermal toxicity : LD50 Dermal (Rabbit): > 2,000 mg/kg

triethylenetetramine:

Acute oral toxicity : LD50 Oral (Rat): 1,716 mg/kg
Acute dermal toxicity : LD50 Dermal (Rabbit): 1,465 mg/kg

2,4,6-tris(dimethylaminomethyl)phenol:

Acute oral toxicity : LD50 Oral (Rat): 2,169 mg/kg

bisphenol-A-(epichlorhydrin) epoxy resin:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg
Acute dermal toxicity : LD50 Dermal (Rabbit): > 20,000 mg/kg

1-(2-aminoethyl)piperazyna:

Acute oral toxicity : LD50 Oral (Rabbit): 2,097 mg/kg
Acute dermal toxicity : LD50 Dermal (Rabbit): ca. 866 mg/kg

3,6,9-triazaundecamethylenediamine:

Acute oral toxicity : LD50 Oral (Rat): 1,716.2 mg/kg
Acute dermal toxicity : LD50 Dermal (Rat): 1,260 mg/kg

Skin corrosion/irritation

Causes severe burns.

Serious eye damage/eye irritation

Causes serious eye damage.

**Respiratory or skin sensitization****Skin sensitization**

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

May damage fertility or the unborn child.
May cause harm to breast-fed children.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity

May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Benzyl alcohol:**

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

Isophoronediamine:

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 10 - 100 mg/l

triethylenetetramine:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia): 10 - 100 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 10 - 100 mg/l
Exposure time: 72 h

**2,4,6-tris(dimethylaminomethyl)phenol:**

Toxicity to algae/aquatic plants : EC50 (Scenedesmus capricornutum (fresh water algae)): > 10 - 100 mg/l

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 7.07 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 4.34 mg/l

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.5 mg/l

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia sp. (Water flea)): 7.07 mg/l
Exposure time: 48 d

bisphenol-A-(epichlorhydrin) epoxy resin:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.8 mg/l
Exposure time: 48 h

naphthalene:**1-(2-aminoethyl)piperazyna:**

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects**Product:**

Additional ecological information : Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.



SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

- Waste from residues : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

- UN/ID No. : UN 1760
- Proper shipping name : Corrosive liquid, n.o.s.
(3,6-diazaoctanethylenediamin, 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
- Class : 8
- Packing group : II
- Labels : Corrosive
- Packing instruction (cargo aircraft) : 855
- Packing instruction (passenger aircraft) : 851

IMDG-Code

- UN number : UN 1760
- Proper shipping name : CORROSIVE LIQUID, N.O.S.
(3,6-diazaoctanethylenediamin, 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
- Class : 8
- Packing group : II
- Labels : 8
- EmS Code : F-A, S-B
- Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

TDG

- UN number : UN 1760
- Proper shipping name : CORROSIVE LIQUID, N.O.S.
(3,6-diazaoctanethylenediamin, Isophoronediamine)
- Class : 8
- Packing group : II
- Labels : 8
- ERG Code : 154
- Marine pollutant : no

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION**Canadian lists**

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION**Full text of other abbreviations**

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value
ADR	:	Accord européen relatif au transport international des marchandises Dangereuses par Route
CAS	:	Chemical Abstracts Service
DNEL	:	Derived no-effect level
EC50	:	Half maximal effective concentration
GHS	:	Globally Harmonized System
IATA	:	International Air Transport Association
IMDG	:	International Maritime Code for Dangerous Goods
LD50	:	Median lethal dose (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	:	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	:	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	:	Occupational Exposure Limit
PBT	:	Persistent, bioaccumulative and toxic



PNEC	:	Predicted no effect concentration
REACH	:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SVHC	:	Substances of Very High Concern
vPvB	:	Very persistent and very bioaccumulative

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