URALANE® 5772 A US

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SECTION 1. IDENTIFICATION

Product name : URALANE® 5772 A US

Manufacturer or supplier's details

Company name of supplier : Huntsman Advanced Materials Americas LLC

Address : P.O. Box 4980
The Woodlands,
TX 77387
United States of America (USA)

Telephone : Non-Emergency: (800) 257-5547

E-mail address : Global_Product_EHS_AdMat@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Component of a Polyurethane System.

Restrictions on use : For industrial use only.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Inhalation) : Category 2

Skin irritation : Category 2

Eye irritation : Category 2A

Respiratory sensitisation : Category 1

Skin sensitisation : Category 1

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

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.
H330 Fatal if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P284 Wear respiratory protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and 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 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane	60857-76-3	30 - 50
Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]	52292-18-9	30 - 50

4,4'-methylenedicyclohexyl diisocyanate	5124-30-1	1 - 5
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	1 - 5

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Treat symptomatically. Get medical attention if symptoms occur.
If inhaled	:	Call a physician or poison control centre immediately. If inhaled, remove to fresh air. Get medical attention if symptoms occur.
In case of skin contact	:	If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
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	:	Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	None known.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing If potential for exposure exists refer to Section 8 for specific personal protective equipment. Avoid inhalation, ingestion and contact with skin and eyes. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	Exercise caution when using a high volume water jet as it may scatter and spread fire
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NOx) Hydrogen cyanide (hydrocyanic acid)
Specific extinguishing methods	:	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 firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Refer to protective measures listed in sections 7 and 8.
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 inform respective authorities.
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 formation of aerosol. Do not breathe vapours or spray mist.

Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
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 being used.

Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons.
Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
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 being used.

Conditions for safe storage : Prevent unauthorized access.
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.
Keep in properly labelled containers.

Materials to avoid : For incompatible materials please refer to Section 10 of this SDS.

Recommended storage temperature : 36 - 104 °F / 2 - 40 °C

Further information on storage stability : Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parameters /	Basis

		exposure)	Permissible concentration	
4,4'-methylenedicyclohexyl diisocyanate	5124-30-1	TWA	0.005 ppm	ACGIH
		C	0.01 ppm 0.11 mg/m3	NIOSH REL
		C	0.01 ppm 0.11 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection

Remarks : 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.
The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour	:	translucent amber, Clear
Odour	:	pungent
Odour Threshold	:	No data is available on the product itself.
pH	:	No data is available on the product itself.
Melting point/freezing point	:	No data is available on the product itself.
Boiling point	:	> 392 °F / > 200 °C
Flash point	:	> 396 °F / > 202 °C Method: Tag closed cup
Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.
Flammability (liquids)	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Vapour pressure	:	< 13.33 hPa (68 °F / 20 °C)
Relative vapour density	:	No data is available on the product itself.
Relative density	:	1 (68 - 77 °F / 20 - 25 °C)
Density	:	1 g/cm3 (68 - 77 °F / 20 - 25 °C)
Solubility(ies)		
Water solubility	:	Water reactive
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Auto-ignition temperature	:	No data is available on the product itself.
Decomposition temperature	:	> 392 °F / > 200 °C
Self-Accelerating decomposition temperature (SADT)	:	No data is available on the product itself.
Viscosity		
Viscosity, dynamic	:	20,000 mPa.s

Explosive properties	:	No data is available on the product itself.
Oxidizing properties	:	No data is available on the product itself.
Particle size	:	No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	None known.
Incompatible materials	:	Strong acids Strong bases Strong oxidizing agents None known.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.
Hazardous decomposition products	:	carbon monoxide carbon dioxide Nitrogen oxides (NOx) hydrogen cyanide hydrogen cyanide hydrocarbons aniline

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute inhalation toxicity	:	Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations. Acute toxicity estimate: 0.4389 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Acute oral toxicity	:	LD50 (Rat, male and female): 18,200 mg/kg

Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC50 (Rat, male and female): 0.43 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: Information given is based on data obtained from similar substances.

Acute dermal toxicity : LD50 (Rat, male and female): > 7,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Information given is based on data obtained from similar substances.

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Acute oral toxicity : LD50 (Rat, male and female): 18,200 mg/kg
Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC50 (Rat, male and female): 0.43 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: Information given is based on data obtained from similar substances.

Acute dermal toxicity : LD50 (Rat, male and female): > 7,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Information given is based on data obtained from similar substances.

4,4'-methylenedicyclohexyl diisocyanate:

Acute oral toxicity : LD50 (Rat, male and female): 18,200 mg/kg
Method: OECD Test Guideline 401
GLP: no
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): 0.43 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 7,000 mg/kg
Method: OECD Test Guideline 402
GLP: no
Assessment: The substance or mixture has no acute dermal toxicity

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Acute oral toxicity : LD50 (Rat, male and female): 8,025 mg/kg

Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male): 4,250 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
Remarks : Information given is based on data obtained from similar substances.

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
Remarks : Information given is based on data obtained from similar substances.

4,4'-methylenedicyclohexyl diisocyanate:

Species : Rabbit
Assessment : Irritating to skin.
Method : OECD Test Guideline 404
Result : Irritating to skin.
GLP : yes

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Serious eye damage/eye irritation

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Species : Rabbit
Result : Eye irritation
Method : OECD Test Guideline 405
Remarks : Information given is based on data obtained from similar

substances.

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Species	:	Rabbit
Result	:	Eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Information given is based on data obtained from similar substances.

4,4'-methylenedicyclohexyl diisocyanate:

Species	:	Rabbit
Result	:	Irritating to eyes.
Assessment	:	Irritating to eyes.
Method	:	OECD Test Guideline 405
GLP	:	no

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Species	:	Rabbit
Result	:	Risk of serious damage to eyes.
Assessment	:	Severe eye irritation
Method	:	OECD Test Guideline 405

Respiratory or skin sensitisation

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Exposure routes	:	Skin
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	May cause sensitisation by skin contact.
Remarks	:	Information given is based on data obtained from similar substances.

Exposure routes	:	Respiratory Tract
Species	:	Guinea pig
Result	:	May cause sensitisation by inhalation.
Remarks	:	Information given is based on data obtained from similar substances.

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Exposure routes	:	Skin
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	May cause sensitisation by skin contact.
Remarks	:	Information given is based on data obtained from similar substances.

Exposure routes	:	Respiratory Tract
Species	:	Guinea pig
Result	:	May cause sensitisation by inhalation.

Remarks : Information given is based on data obtained from similar substances.

4,4'-methylenedicyclohexyl diisocyanate:

Test Type : Maximisation Test
Exposure routes : Skin
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitisation by skin contact.

Exposure routes : inhalation (dust/mist/fume)
Species : Guinea pig
Result : May cause sensitisation by inhalation.
GLP : yes

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Exposure routes : Skin
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.

Germ cell mutagenicity

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Genotoxicity in vitro : Concentration: 50 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Concentration: 28 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Concentration: 96 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Genotoxicity in vitro : Concentration: 50 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Remarks: Information given is based on data obtained from

similar substances.

Concentration: 28 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Concentration: 96 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Remarks: Information given is based on data obtained from similar substances.

4,4'-methylenedicyclohexyl diisocyanate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster lung cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

Test Type: gene mutation test
Test system: Chinese hamster lung cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Genotoxicity in vivo : Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: positive

Application Route: Intraperitoneal injection
Dose: 1600 mg/kg
Result: negative

Application Route: Oral
Result: negative

Carcinogenicity

Components:

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Species	:	Mouse, male
Application Route	:	Dermal
Exposure time	:	482 days
Dose	:	5 mg/kg
Frequency of Treatment	:	3 daily
Result	:	negative

IARC 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.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP 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.

Reproductive toxicity

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Effects on fertility	:	Species: Rat, male and female Application Route: Inhalation Target Organs: Respiratory Tract Method: OECD Test Guideline 421 Result: negative Remarks: Information given is based on data obtained from similar substances.
Effects on foetal development	:	Species: Rat, female Application Route: Inhalation General Toxicity Maternal: NOAEL: 1 mg/m³ Method: OECD Test Guideline 414 Result: No teratogenic effects Remarks: Information given is based on data obtained from similar substances.

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Effects on fertility	:	Species: Rat, male and female Application Route: Inhalation Target Organs: Respiratory Tract Method: OECD Test Guideline 421 Result: negative Remarks: Information given is based on data obtained from similar substances.
Effects on foetal	:	Species: Rat, female

development

Application Route: Inhalation
General Toxicity Maternal: NOAEL: 1 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects
Remarks: Information given is based on data obtained from similar substances.

4,4'-methylenedicyclohexyl diisocyanate:

Effects on fertility : Test Type: Reproduction / Developmental Toxicity Screening Test
Species: Rat, male and female
Application Route: inhalation (dust/mist/fume)
Dose: 1/6/36 mg/m³
Frequency of Treatment: 7 days/week
General Toxicity - Parent: NOAEL: 1 mg/m³
General Toxicity F1: NOAEL: 36 mg/m³
Target Organs: Respiratory Tract
Method: OECD Test Guideline 421
Result: negative
GLP: yes

Effects on foetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Inhalation
Dose: 1/6/36 mg/m³
Duration of Single Treatment: 15 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: NOAEL: 1 mg/m³
Developmental Toxicity: NOAEL: 6 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects
GLP: yes

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 415
Result: No effects on fertility and early embryonic development were detected.

Effects on foetal development : Species: Rabbit, female
Application Route: Oral
General Toxicity Maternal: NOAEL: 200 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

STOT - single exposure

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Exposure routes : Inhalation
Target Organs : Respiratory Tract
Assessment : May cause respiratory irritation.
Remarks : Information given is based on data obtained from similar

substances.

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Exposure routes	:	Inhalation
Target Organs	:	Respiratory Tract
Assessment	:	May cause respiratory irritation.
Remarks	:	Information given is based on data obtained from similar substances.

4,4'-methylenedicyclohexyl diisocyanate:

Exposure routes	:	Inhalation
Target Organs	:	Respiratory Tract
Assessment	:	May cause respiratory irritation.

STOT - repeated exposure

No data available

Repeated dose toxicity

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Species	:	Rat, male and female
NOEC	:	3 mg/m3
Test atmosphere	:	dust/mist
Exposure time	:	2,184 h
Number of exposures	:	6 h
Method	:	OECD Test Guideline 413
Remarks	:	Information given is based on data obtained from similar substances.

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Species	:	Rat, male and female
NOEC	:	3 mg/m3
Test atmosphere	:	dust/mist
Exposure time	:	2,184 h
Number of exposures	:	6 h
Method	:	OECD Test Guideline 413
Remarks	:	Information given is based on data obtained from similar substances.

4,4'-methylenedicyclohexyl diisocyanate:

Species	:	Rat, male and female
NOAEL	:	3 mg/m3
Application Route	:	inhalation (dust/mist/fume)
Test atmosphere	:	dust/mist
Exposure time	:	13 weeks 6 h
Number of exposures	:	5 days/week
Method	:	OECD Test Guideline 413
GLP	:	yes

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Species	:	Rat, male and female
NOEC	:	> 1000 mg/m3
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	672 h
Number of exposures	:	5 d
Method	:	OECD Test Guideline 412

Species	:	Rat, male and female
NOAEL	:	1000 mg/kg/d
Application Route	:	Ingestion
Exposure time	:	2,160 h
Number of exposures	:	7 d
Method	:	Subchronic toxicity

Aspiration toxicity

No data available

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 8.1 mg/l Exposure time: 96 h Test Type: static test Test substance: Fresh water Method: Directive 67/548/EEC, Annex V, C.1. Remarks: Information given is based on data obtained from similar substances.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 8.3 mg/l Exposure time: 48 h Test Type: static test Test substance: Fresh water Method: Directive 67/548/EEC, Annex V, C.2. Remarks: Information given is based on data obtained from similar substances.
Toxicity to algae/aquatic plants	:	EgC50 (Desmodesmus subspicatus (green algae)): > 5 mg/l Exposure time: 72 h

Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.3.
Remarks: Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 8.1 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.1.
Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 8.3 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants : EgC50 (Desmodesmus subspicatus (green algae)): > 5 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.3.
Remarks: Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

4,4'-methylenedicyclohexyl diisocyanate:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 8.1 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.1.
GLP: yes

Toxicity to daphnia and other : EC50 (Daphnia magna Straus): > 8.3 mg/l

aquatic invertebrates		End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes Test substance: Fresh water Method: Directive 67/548/EEC, Annex V, C.2. GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 5 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Test substance: Fresh water Method: Directive 67/548/EEC, Annex V, C.3. GLP: yes NOEC (Desmodesmus subspicatus (green algae)): 0.31 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Test substance: Fresh water Method: Directive 67/548/EEC, Annex V, C.3. GLP: yes
Toxicity to microorganisms	:	EC50 (activated sludge): 191 mg/l Exposure time: 3 h Test Type: static test Analytical monitoring: no Test substance: Fresh water Method: OECD Test Guideline 209 GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): 55 mg/l Exposure time: 96 h Test Type: semi-static test Test substance: Fresh water Method: Directive 67/548/EEC, Annex V, C.1.
Toxicity to daphnia and other aquatic invertebrates	:	LC50: 324 mg/l Exposure time: 48 h Test Type: static test Test substance: Fresh water
Toxicity to algae/aquatic plants	:	EC50: 119 mg/l Exposure time: 168 h Test Type: static test Test substance: Fresh water
Toxicity to daphnia and other	:	NOEC (Daphnia magna (Water flea)): >= 100 mg/l

aquatic invertebrates (Chronic toxicity)	Exposure time: 21 d Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	Harmful to aquatic life with long lasting effects.

Persistence and degradability

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Biodegradability	:	Inoculum: activated sludge Concentration: 30 mg/l Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 28 d Method: Directive 67/548/EEC Annex V, C.4.D. Remarks: Based on data from similar materials

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Biodegradability	:	Inoculum: activated sludge Concentration: 30 mg/l Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 28 d Method: Directive 67/548/EEC Annex V, C.4.D. Remarks: Based on data from similar materials

4,4'-methylenedicyclohexyl diisocyanate:

Biodegradability	:	aerobic Inoculum: activated sludge, non-adapted Concentration: 100 mg/l Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 28 d Method: Directive 67/548/EEC Annex V, C.4.D. Test substance: Fresh water GLP: yes aerobic Inoculum: activated sludge Concentration: 12 mg/l Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 28 d Method: OECD Test Guideline 301F Test substance: Fresh water GLP: yes

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 37 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.A.

Stability in water : Degradation half life (DT50): 6.5 hrs (24.5 °C) pH: 7
Method: OECD Test Guideline 111
Remarks: Fresh water

Degradation half life (DT50): 0.15 hrs (24.5 °C) pH: 5
Method: OECD Test Guideline 111
Remarks: Fresh water

Degradation half life (DT50): 0.13 hrs (24.5 °C) pH: 9
Method: OECD Test Guideline 111
Remarks: Fresh water

Bioaccumulative potential

Components:

Oxirane, methyl-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and oxirane:

Bioaccumulation : Bioconcentration factor (BCF): 10,186
Remarks: Based on data from similar materials

Poly(oxy-1,4-butanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Bioaccumulation : Bioconcentration factor (BCF): 10,186
Remarks: Based on data from similar materials

4,4'-methylenedicyclohexyl diisocyanate:

Partition coefficient: n-octanol/water : log Pow: 6.11
Method: Calculation method

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Partition coefficient: n-octanol/water : log Pow: -2.6 (77 °F / 25 °C)

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of contents and container in accordance with all local, regional, national and international regulations.
Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as dangerous goods

IATA-DGR
Not regulated as dangerous goods

IMDG-Code
Not regulated as dangerous goods

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

49 CFR
Not regulated as dangerous goods

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity
Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

4,4'-methylenedicyclohexyl diisocyanate	5124-30-1	>= 1 - < 5 %

This product does not contain any hazardous air pollutants (HAP) >=0.1%, as defined by the U.S. Clean Air Act Section 112 (40 CFR 61

California Prop. 65

WARNING: This product can expose you to chemicals including methanol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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

DSL	:	All components of this product are on the Canadian DSL
AIIC	:	Not in compliance with the inventory
ENCS	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory

Inventories

AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

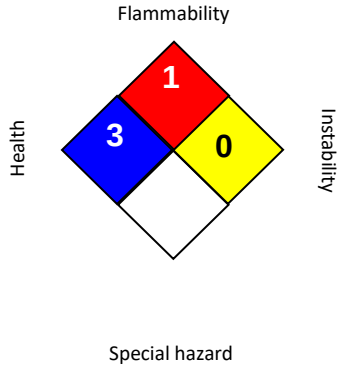
TSCA - 5(a) Significant New Use Rule List of Chemicals
No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No substances are subject to TSCA 12(b) export notification requirements.

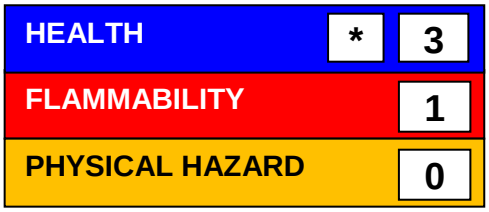
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

Revision Date	:	04/13/2023
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / C	:	Ceiling value not be exceeded at any time.
OSHA P0 / C	:	Ceiling limit

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE.

URALANE® 5772 B US

Version	Revision Date:	SDS Number:	Date of last issue: 04/19/2018
1.1	05/21/2024	400001009702	Date of first issue: 04/19/2018

Print Date 09/17/2024

SECTION 1. IDENTIFICATION

Product name : URALANE® 5772 B US

Manufacturer or supplier's details

Company name of supplier : Huntsman Advanced Materials Americas LLC
Address : P.O. Box 4980
The Woodlands,
TX 77387
United States of America (USA)
Telephone : Non-Emergency: (800) 257-5547

E-mail address : Global_Product_EHS_AdMat@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Hardener

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4

Acute toxicity (Dermal) : Category 4

Eye irritation : Category 2A

Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Pancreas)

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H302 + H312 Harmful if swallowed or in contact with skin.

H319 Causes serious eye irritation.
H373 May cause damage to organs (Pancreas) through prolonged or repeated exposure if swallowed.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/ attention if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
Storage:
Not available
Disposal:
P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
diethylmethylbenzenediamine	68479-98-1	50 - 70

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance. Treat symptomatically. Get medical attention if symptoms occur.
If inhaled	:	Call a physician or poison control centre immediately. If inhaled, remove to fresh air. Get medical attention if symptoms occur.
In case of skin contact	:	Wash with water and soap as a precaution.
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	:	Induce vomiting immediately and call a physician. Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	Harmful if swallowed or in contact with skin. Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure if swallowed.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing If potential for exposure exists refer to Section 8 for specific personal protective equipment. No action shall be taken involving any personal risk or without suitable training.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	Exercise caution when using a high volume water jet as it may scatter and spread fire
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NOx)

Specific extinguishing methods	:	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 firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Refer to protective measures listed in sections 7 and 8.
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 inform respective authorities.
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 vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	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. Keep in properly labelled containers.
Materials to avoid	:	Strong acids

Strong bases

Strong oxidizing agents

For incompatible materials please refer to Section 10 of this SDS.

Further information on storage stability : Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : W A R N I N G ! This product contains quartz, which has been classified by IARC as carcinogenic for humans (Group 1), and which can cause silicosis and lung cancer following exposure to respirable dust. It is therefore important to take particular care to avoid inhalation exposure when mechanically processing cured material (e.g. grinding, sanding, sawing).

Hand protection

Material	:	butyl-rubber
Break through time	:	> 8 h
Material	:	Solvent-resistant gloves (butyl-rubber)
Material	:	Nitrile rubber
Break through time	:	10 - 480 min
Material	:	Neoprene gloves

Remarks : 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.
The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	paste
Colour	:	dark amber
Odour	:	amine-like
Odour Threshold	:	No data is available on the product itself.
pH	:	No data is available on the product itself.
Melting point/freezing point	:	No data is available on the product itself.
Boiling point	:	> 392 °F / > 200 °C
Flash point	:	> 212 °F / > 100 °C Method: Pensky-Martens closed cup, closed cup
Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.
Flammability (liquids)	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Vapour pressure	:	< 1 hPa (68 °F / 20 °C)
Relative vapour density	:	No data is available on the product itself.
Relative density	:	1.2
Density	:	1.2 g/cm3 (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	partly soluble (68 °F / 20 °C)
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Auto-ignition temperature	:	No data is available on the product itself.
Decomposition temperature	:	> 392 °F / > 200 °C

Self-Accelerating decomposition temperature (SADT)	:	No data is available on the product itself.
Viscosity	:	No data is available on the product itself.
Explosive properties	:	No data is available on the product itself.
Oxidizing properties	:	No data is available on the product itself.
Particle size	:	No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	None known.
Incompatible materials	:	None known.
Hazardous decomposition products	:	Carbon oxides Burning produces noxious and toxic fumes. No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed or in contact with skin.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1,197 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: 1,733 mg/kg Method: Calculation method

Components:

diethylmethylbenzenediamine:

Acute oral toxicity	:	LD50 (Rat, male and female): 738 mg/kg Method: OECD Test Guideline 401
Acute dermal toxicity	:	Acute toxicity estimate (Rat, male and female): 1,128 mg/kg

Assessment: The component/mixture is moderately toxic after single contact with skin.

Skin corrosion/irritation

Not classified due to lack of data.

Components:

diethylmethylbenzenediamine:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

diethylmethylbenzenediamine:

Species	:	Rabbit
Result	:	Irritating to eyes.
Assessment	:	Irritant

Species	:	Rabbit
Result	:	Irritation to eyes, reversing after 7 to 21 days
Assessment	:	Irritating to eyes.
Method	:	Other guidelines

Respiratory or skin sensitisation

Skin sensitisation

Not classified due to lack of data.

Respiratory sensitisation

Not classified due to lack of data.

Components:

diethylmethylbenzenediamine:

Exposure routes	:	Intradermal
Species	:	Guinea pig
Assessment	:	Did not cause sensitisation on laboratory animals.
Result	:	Did not cause sensitisation on laboratory animals.
GLP	:	no

Germ cell mutagenicity

Not classified due to lack of data.

Components:

diethylmethylbenzenediamine:

Genotoxicity in vitro	:	Metabolic activation: no Method: OECD Test Guideline 476

Result: negative

Test Type: Chromosome aberration test in vitro
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: Not classified due to inconclusive data.
GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Oral
Dose: 125/250/500 mg/kg bw/d
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Carcinogenicity

Not classified due to lack of data.

Components:

diethylmethylbenzenediamine:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	24 month(s)
Dose	:	10/35/70 ppm
Frequency of Treatment	:	7 daily
LOAEL	:	1.4 - 3.8 mg/kg body weight
Method	:	OECD Test Guideline 451
Result	:	negative
GLP	:	yes

IARC 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.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP 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.

Reproductive toxicity

Not classified due to lack of data.

Components:

diethylmethylbenzenediamine:

Effects on foetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Oral
Dose: 0/50/150/500 mg/kg bw/d
Duration of Single Treatment: 20 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: NOEL: 2.63 mg/kg body weight

Developmental Toxicity: NOAEL: 7.83 mg/kg body weight
Method: OECD Test Guideline 414
Result: No data available
GLP: yes

STOT - single exposure

Not classified due to lack of data.

STOT - repeated exposure

May cause damage to organs (Pancreas) through prolonged or repeated exposure if swallowed.

Components:

diethylmethylbenzenediamine:

Exposure routes	:	Ingestion
Target Organs	:	Pancreas
Assessment	:	May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

diethylmethylbenzenediamine:

Species	:	Rat, male and female
NOAEL	:	8 - 10 mg/kg
Application Route	:	oral (feed)
Exposure time	:	90 d
Number of exposures	:	daily
Dose	:	0/50/125/320 ppm
Method	:	OECD Test Guideline 408
GLP	:	yes

Species	:	Rabbit, male and female
NOAEL	:	> 100 mg/kg
Application Route	:	Skin contact
Exposure time	:	21 d
Number of exposures	:	5 days/week
Dose	:	1/10/100 mg/kg bw/d
Method	:	Subchronic toxicity
GLP	:	yes

Aspiration toxicity

Not classified due to lack of data.

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

M-Factor (Acute aquatic toxicity) : 1

1

1

Components:

diethylmethylbenzenediamine:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 200 mg/l
End point: mortality
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: DIN 38412
GLP: no

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.5 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.
GLP: no

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): ca. 104 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201
GLP: yes

ErC10 (Desmodesmus subspicatus (green algae)): ca. 54 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic : 1

toxicity)

Toxicity to microorganisms	:	EC50 (Pseudomonas putida): > 170 mg/l Exposure time: 24 h Test Type: static test Analytical monitoring: no Test substance: Fresh water GLP: no

Persistence and degradability

Components:

diethylmethylbenzenediamine:

Biodegradability	:	Result: Not readily biodegradable. Method: QSAR GLP: no
Photodegradation	:	Test Type: Air Rate constant: < .00001

Bioaccumulative potential

Components:

diethylmethylbenzenediamine:

Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 2.75 GLP: no Remarks: Does not bioaccumulate.
Partition coefficient: n-octanol/water	:	log Pow: 1.17 (77 °F / 25 °C) Method: OECD Test Guideline 107 GLP: yes

Mobility in soil

Components:

diethylmethylbenzenediamine:

Distribution among environmental compartments	:	Koc: 31.72 - 551

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological	:	An environmental hazard cannot be excluded in the event of

information	unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of contents and container in accordance with all local, regional, national and international regulations. Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIETHYLTOLUENEDIAMINE)
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	yes

IATA-DGR

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

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIETHYLTOLUENEDIAMINE)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

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

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (DIETHYLTOLUENEDIAMINE)
Class	:	9
Packing group	:	III
Labels	:	CLASS 9
ERG Code	:	171
Marine pollutant	:	yes
Remarks	:	Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

Remarks	:	49CFR: no dangerous good in non-bulk packaging

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

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

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.

This product does not contain any hazardous air pollutants (HAP) >=0.1%, as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

DSL	:	All components of this product are on the Canadian DSL
AIIC	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory

IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	Not in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory

Inventories

AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

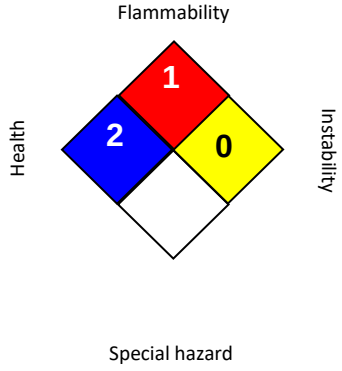
TSCA - 5(a) Significant New Use Rule List of Chemicals
No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No substances are subject to TSCA 12(b) export notification requirements.

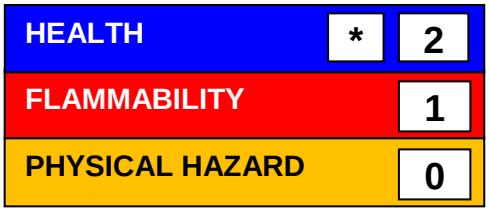
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

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The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE.