

SAFETY DATA SHEET

HUNTSMAN
Enriching lives through innovation

URALANE® 5776 B US

Section 1. Identification

GHS product identifier : URALANE® 5776 B US
Product code : 00066330
Other means of identification : Not available.
Product type : Liquid.
Material uses : Adhesive
Supplier's details : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387
Non-Emergency phone: (800) 257-5547
e-mail address of person responsible for this SDS : MSDS@huntsman.com
Emergency telephone number (24h/7day) : Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 2.5%
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.5%

GHS label elements

Hazard pictograms :



Signal word :

Warning

Hazard statements :

Causes eye irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
Very toxic to aquatic life with long lasting effects.

Section 2. Hazards identification

Precautionary statements : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Collect spillage. IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
N,N'-di-sec-butyl-4,4'-methylenedianiline	30 - 60	5285-60-9
Castor Oil	13 - 30	8001-79-4
diethyl methylene dianiline	3 - 7	19900-65-3
Tetrakis(2-hydroxypropyl)ethylenediamine (THPE)	3 - 7	102-60-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes eye irritation.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : May be irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.
- Protection of first-aiders** : 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

- Flash point** : Closed cup: >94°C (>201.2°F)

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Thermal hazards : Not available.

Section 9. Physical and chemical properties

Appearance

Physical state	: Liquid.
Color	: Brown.
Odor	: Ammoniacal.
Odor threshold	: Not available.
pH	: Not available.
Melting point/Freezing point	: Not available.
Boiling/condensation point	: Not available.
Flash point	: Closed cup: >94°C (>201.2°F)
Evaporation rate	: <1 (butyl acetate = 1)
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: <0.13 kPa (<1 mm Hg) [room temperature]
Vapor density	: >1 [Air = 1]
Relative density	: 1.12
Solubility in water	: negligible
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Evaporation rate (butyl acetate = 1)	: <1 (butyl acetate = 1)
Viscosity	: Not available.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Endpoint	Species	Result
N,N'-di-sec-butyl-4,4'-methylenedianiline	-	LD50 Dermal	Rabbit	3090 mg/kg
	-	LD50 Oral	Rat	1380 mg/kg
Castor Oil	-	LD50 Oral	Rat	>5000 mg/kg
	-	LC50 Inhalation Dusts and mists	Rat - Male, Female	>0.85 mg/l
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rat - Male, Female	2080 mg/kg
diethyl methylene dianiline	-	LD50 Oral	Rat	444 mg/kg
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male, Female	2890 mg/kg
Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male, Female	2890 mg/kg

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
N,N'-di-sec-butyl-4,4'-methylenedianiline	-	Rabbit	Skin - Mild irritant
Castor Oil	-	Rabbit	Eyes - Mild irritant
	-	Human	Skin - Mild irritant
diethyl methylene dianiline	-	Rabbit	Eyes - Mild irritant
	EPA OPPTS OPPTS 870.2500 Acute Dermal Irritation	Rabbit	Skin - Non-irritant.
Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	EPA OPPTS EPA OTS 798.4500	Rabbit	Eyes - Non-irritant.
	-	Rabbit	Eyes - Irritant

Conclusion/Summary

Skin	: N,N'-di-sec-butyl-4,4'-methylenedianiline Castor Oil diethyl methylene dianiline Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	Slightly irritating to the skin. Irritating to skin. Non-irritating to the skin. No additional information.
Eyes	: N,N'-di-sec-butyl-4,4'-methylenedianiline Castor Oil diethyl methylene dianiline Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	Slightly irritating to the eyes. Slightly irritating to the eyes. Non-irritating to the eyes. Irritating to eyes.
Respiratory	: N,N'-di-sec-butyl-4,4'-methylenedianiline Castor Oil diethyl methylene dianiline Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	No additional information. No additional information. No additional information. No additional information.

Sensitization

Section 11. Toxicological information

Product/ingredient name	Test	Route of exposure	Species	Result
diethyl methylene dianiline	-	skin	Human	Sensitizing

Mutagenicity

Product/ingredient name	Test	Result
Castor Oil diethyl methylene dianiline	-	-
	Experiment: In vitro Subject: bacteria/yeast Metabolic activation: +/- Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Positive Positive

Conclusion/Summary :

diethyl methylene dianiline The weight of the scientific evidence indicates that this material is genotoxic.

Tetrakis(2-hydroxypropyl) ethylenediamine (THPE) Not mutagenic in a standard battery of genetic toxicological tests.

Carcinogenicity

Product/ingredient name	Test	Species	Dose	Exposure	Result/Result type
diethyl methylene dianiline	OECD 451 Carcinogenicity Studies	Rat - Male, Female	9 to 10 mg/kg	103 weeks; 24 hours per day	Positive - Oral - LOAEL

Reproductive toxicity

Product/ingredient name	Test	Species	Maternal toxicity	Fertility	Developmental effects
Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test	Rat - Male, Female	Negative	Negative	Negative

Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	-	Rat - Female	Negative - Oral

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Section 11. Toxicological information

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Causes eye irritation.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : May be irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Product/ingredient name	Test	Endpoint	Species	Result
Castor Oil	-	Sub-chronic LOAEL Oral	Rat	7.5 g/kg
diethyl methylene dianiline	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Sub-chronic LOAEL Oral	Rat - Male, Female	7.5 to 8 mg/kg/d
	-	Sub-chronic NOAEL Dermal	Rat - Male, Female	3 mg/kg/d
	-	Sub-chronic LOAEL Oral	Rat - Male, Female	8 mg/kg
Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/	Sub-acute NOAEL Oral	Rat - Male, Female	1000 mg/kg/d

Section 11. Toxicological information

	Developmental Toxicity Screening Test OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test	Sub-acute NOAEL Oral	Rat - Male, Female	300 mg/kg/d
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- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	2248 mg/kg
Dermal	6581.6 mg/kg

Other information : Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Endpoint	Exposure	Species	Result
diethyl methylene dianiline Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute EC50	48 hours Static	Daphnia	0.35 mg/l
	OECD 203 Fish, Acute Toxicity Test	Acute LC50	96 hours Semi-static	Fish	20.6 mg/l
	OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic NOEC	21 days Semi-static	Daphnia	0.00525 mg/l
	EU EC C.3 Algal Inhibition Test	Acute EC50	72 hours	Algae	150.67 mg/l
	EU EC C.2 Acute Toxicity for Daphnia	Acute IC0	48 hours Static	Daphnia	>100 mg/l
	DIN DIN 38412 Part 15	Acute LC50	48 hours Static	Fish	2700 mg/l
	DIN DIN 38412 Part 15	Acute LC50	96 hours Flow-through	Fish	4600 mg/l
	-	Chronic NOEC	3 hours	Bacteria	700 mg/l
	OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic NOEC	21 days Semi-static	Daphnia	10 mg/l

Section 12. Ecological information

	EU EC C.3 Algal Inhibition Test	Chronic	NOECr	72 hours	Algae	4.25	mg/l
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Conclusion/Summary : N,N'-di-sec-butyl-4,4'-methylenedianiline Toxic to aquatic organisms if run directly to surface waters.

Persistence and degradability

Product/ingredient name	Test	Period	Result
Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	OECD 302B Inherent Biodegradability:	28 days	36 %
	Zahn-Wellens/EMPA Test EU	28 days	9 %

Conclusion/Summary : N,N'-di-sec-butyl-4,4'-methylenedianiline Poorly eliminated by biodegradation
 Tetrakis(2-hydroxypropyl) ethylenediamine (THPE) Inherently biodegradable
 Siloxanes and Silicones, di-Me, reaction products with silica Eliminated by adsorption onto effluent treatment sludge.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Castor Oil	-	-	Readily
Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	Fresh water days	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
N,N'-di-sec-butyl-4,4'-methylenedianiline	6.08	4700	high
Tetrakis(2-hydroxypropyl) ethylenediamine (THPE)	-2.08	-	low

Mobility in soil

Not available.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

- BOD5** : Not determined.
- COD** : Not determined.
- TOC** : Not determined.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when

Section 13. Disposal considerations

handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Proper shipping name

DOT : Not regulated.
 TDG : Not regulated.
 IMDG : Not regulated.
 IATA : Not regulated.

Regulatory information	UN number	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-		-
TDG Classification	Not regulated.	-	-		-
IMDG Classification	Not regulated.	-	-		-
IATA Classification	Not regulated.	-	-		-

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) inventory : All components are listed or exempted.
 TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.
 TSCA 5(e) substance consent order : No ingredients listed.
 TSCA 12(b) export notification : No ingredients listed.
 SARA 311/312 : Immediate (acute) health hazard
 Delayed (chronic) health hazard

Section 15. Regulatory information

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

SARA 313 : No ingredients listed.

	<u>Ingredient name</u>	<u>%</u>	<u>Section 304 CERCLA Hazardous Substance</u>	<u>CERCLA Reportable Quantity (Lbs)</u>	<u>Product Reportable Quantity (Lbs)</u>
CERCLA Hazardous substances	zinc bis (2-ethylhexanoate)	0.0245	Listed	No RQ assigned	
	Ethylbenzene	0.000007	Listed	1000	14285714286

State regulations

PENNSYLVANIA - RTK : quartz (SiO2)

California Prop 65 : **WARNING:** This product contains a chemical known to the State of California to cause cancer.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>
quartz (SiO2)	Yes.	No.
Ethylbenzene	Yes.	No.

Canadian regulations

CEPA DSL : All components are listed or exempted.

WHMIS Classes : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

Classification system used : **Norma ABNT-NBR 14725-2:2012**

International lists

- Australia inventory (AICS):** All components are listed or exempted.
- China inventory (IECSC):** Not determined.
- Japan inventory:** At least one component is not listed.
- Korea inventory:** At least one component is not listed.
- Malaysia Inventory (EHS Register):** Not determined.
- New Zealand Inventory of Chemicals (NZIoC):** At least one component is not listed.
- Philippines inventory (PICCS):** At least one component is not listed.
- Taiwan inventory (CSNN):** Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

Health	*	2
		1
Physical hazards		1
Personal protection		

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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 Version : 1.01

▣ Indicates information that has changed from previously issued version.

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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.

Section 16. Other information

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. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.

SAFETY DATA SHEET

URALANE® 5776 A US

Section 1. Identification

GHS product identifier : URALANE® 5776 A US
Product code : 00071214
Other means of identification : OXIRANE, METHYL-, POLYMER WITH OXIRANE, ETHER WITH 1,2,3-PROPANETRIOL POLYMER WITH 1,1'-METHYLENEBIS (4-ISOCYANATOCYCLOHEXANE)
Product type : Liquid.
Material uses : Isocyanate for adhesive systems
Supplier's details : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387
Non-Emergency phone: (800) 257-5547
e-mail address of person responsible for this SDS : MSDS@huntsman.com
Emergency telephone number (24h/7day) : Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : ACUTE TOXICITY: INHALATION - Category 3
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3

GHS label elements

Hazard pictograms :



Signal word :

Danger

Hazard statements :

Toxic if inhaled.
Causes serious eye irritation.
Causes skin irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

Section 2. Hazards identification

Precautionary statements : Wear protective gloves. Wear eye or face protection. In case of inadequate ventilation wear respiratory protection. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Ingredient name	%	CAS number
OXIRANE, METHYL-, POLYMER WITH OXIRANE, ETHER WITH 1,2,3-PROPANETRIOL POLYMER WITH 1,1'-METHYLENEBIS (4-ISOCYANATOCYCLOHEXANE)	60 - 100	67837-35-8
Dicyclohexylmethane-4,4'-diisocyanate	1 - 3	5124-30-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Toxic if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

- Flash point** : Closed cup: 202°C (395.6°F) [TCC - Tag (Tagliabue) Closed Cup]
- Extinguishing media**
- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Dicyclohexylmethane-4,4'-diisocyanate	ACGIH TLV (United States, 6/2013). TWA: 0.054 mg/m ³ 8 hours. TWA: 0.005 ppm 8 hours. OSHA PEL (United States, 2/2013). Absorbed through skin. TWA: 5 mg/m ³ , (as CN) 8 hours.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

- Eyeface protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Thermal hazards** : Not available.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Light yellow
- Odor** : Pungent.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/Freezing point** : Not available.
- Boiling/condensation point** : >200°C (>392°F)
- Flash point** : Closed cup: 202°C (395.6°F) [TCC - Tag (Tagliabue) Closed Cup]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : <0.0001 kPa (<0.00075 mm Hg) [room temperature]
- Vapor density** : Not available.
- Relative density** : 1
- Solubility in water** : Reacts with water
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : >200°C (>392°F)
- Density** : 1.1 g/cm³ [25°C (77°F)]
- Viscosity** : Dynamic (room temperature): 3700000 mPa·s (3700000 cP)

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Endpoint	Species	Result
Dicyclohexylmethane-4,4'-diisocyanate	OECD 403 Acute Inhalation Toxicity	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.43 mg/l
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rat - Male, Female	>7000 mg/kg
	-	LD50 Oral	Rat - Male, Female	18200 mg/kg

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Dicyclohexylmethane-4,4'-diisocyanate	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Irritant
	OECD 405 Acute Eye Irritation/Corrosion	Rabbit	Eyes - Irritant

Conclusion/Summary

Skin : OXIRANE, METHYL-, POLYMER WITH OXIRANE, ETHER WITH 1,2,3-PROPANETRIOL POLYMER WITH 1,1'-METHYLENEBIS (4-ISOCYANATOCYCLOHEXANE) Dicyclohexylmethane-4,4'-diisocyanate

No additional information.

Severely irritating to the skin.

Eyes :

Section 11. Toxicological information

OXIRANE, METHYL-, No additional information.
 POLYMER WITH
 OXIRANE, ETHER WITH
 1,2,3-PROPANETRIOL
 POLYMER WITH 1,1'-
 METHYLENEBIS
 (4-ISOCYANATOCYCLOHEXANE)
 Dicyclohexylmethane-4,4'- diisocyanate Irritating to eyes.

Respiratory : OXIRANE, METHYL-, No additional information.
 POLYMER WITH
 OXIRANE, ETHER WITH
 1,2,3-PROPANETRIOL
 POLYMER WITH 1,1'-
 METHYLENEBIS
 (4-ISOCYANATOCYCLOHEXANE)
 Dicyclohexylmethane-4,4'- diisocyanate No additional information.

Sensitization

Product/ingredient name	Test	Route of exposure	Species	Result
Dicyclohexylmethane-4,4'-diisocyanate	OECD 406 Skin Sensitization	skin	Guinea pig	Sensitizing
	No official guidelines	Respiratory	Guinea pig	Sensitizing

Mutagenicity

Product/ingredient name	Test	Result
Dicyclohexylmethane-4,4'-diisocyanate	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative
	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/-	Negative
	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/-	Negative

Conclusion/Summary : Dicyclohexylmethane-4,4'- diisocyanate Not mutagenic in a standard battery of genetic toxicological tests.

Carcinogenicity

Not available.

Reproductive toxicity

Section 11. Toxicological information

Product/ingredient name	Test	Species	Maternal toxicity	Fertility	Developmental effects
Dicyclohexylmethane-4,4'-diisocyanate	OECD 421 Reproduction/ Developmental Toxicity Screening Test	Rat - Male, Female	Positive	Negative	Negative

Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Dicyclohexylmethane-4,4'-diisocyanate	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	Negative - Inhalation

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
OXIRANE, METHYL-, POLYMER WITH OXIRANE, ETHER WITH 1,2,3-PROPANETRIOL POLYMER WITH 1,1'-METHYLENEBIS (4-ISOCYANATOCYCLOHEXANE)	Category 3	Not applicable.	Respiratory tract irritation
Dicyclohexylmethane-4,4'-diisocyanate	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Toxic if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma

Section 11. Toxicological information

- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Product/ingredient name	Test	Endpoint	Species	Result
Dicyclohexylmethane-4,4'-diisocyanate	OECD 413 Subchronic Inhalation Toxicity: 90-day Study	Sub-chronic NOEC Inhalation Dusts and mists	Rat - Male, Female	3 mg/m ³

- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Inhalation (vapors)	3.062 mg/l
Inhalation (dusts and mists)	21.5 mg/l

- Other information** : Not available.

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Test	Endpoint	Exposure	Species	Result
Dicyclohexylmethane-4,4'-diisocyanate	EU EC C.2 Acute Toxicity for Daphnia	Acute EC50	48 hours Static	Daphnia	>8.3 mg/l
	EU EC C.3 Algal Inhibition Test	Acute EgC50	72 hours Static	Algae	>5 mg/l
	EU EC C.1 Acute Toxicity for Fish	Acute LC50	96 hours Static	Fish	>8.1 mg/l
	EU EC C.3 Algal Inhibition Test	Chronic NOECr	72 hours Static	Algae	0.31 mg/l

Persistence and degradability

Product/ingredient name	Test	Period	Result
Dicyclohexylmethane-4,4'-diisocyanate	EU	28 days	0 %

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Dicyclohexylmethane-4,4'-diisocyanate	-	-	Not readily

Bioaccumulative potential

Not available.

Mobility in soil

Not available.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

BOD5 : Not determined.

COD : Not determined.

TOC : Not determined.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Proper shipping name

DOT : Not regulated.
 TDG : Not regulated.
 IMDG : Not regulated.
 IATA : Not regulated.

Regulatory information	UN number	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-		-
TDG Classification	Not regulated.	-	-		-
IMDG Classification	Not regulated.	-	-		-
IATA Classification	Not regulated.	-	-		-

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) inventory : All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Immediate (acute) health hazard

	<u>Product name</u>	<u>Concentration %</u>
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	: Dicyclohexylmethane-4,4'-diisocyanate	2

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

Section 15. Regulatory information

SARA 313 Form R - Reporting requirements : **Product name** : Dicyclohexylmethane-4,4'-diisocyanate **Concentration %** : 2

	Ingredient name	%	Section 304 CERCLA Hazardous Substance	CERCLA Reportable Quantity (Lbs)	Product Reportable Quantity (Lbs)
CERCLA Hazardous substances	Dicyclohexylmethane-4,4'-diisocyanate	2	Listed	No RQ assigned	

State regulations

PENNSYLVANIA - RTK : Dicyclohexylmethane-4,4'-diisocyanate

California Prop 65 : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Canadian regulations

CEPA DSL : At least one component is not listed.

WHMIS Classes : Class D-1A: Material causing immediate and serious toxic effects (Very toxic).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

Classification system used : Norma ABNT-NBR 14725-2:2012

International lists

Australia inventory (AICS): At least one component is not listed.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: At least one component is not listed.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): At least one component is not listed.
Taiwan inventory (CSNN): Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

Health	*	2
Flammability		1
Physical hazards		1
Personal protection		

Section 16. Other information

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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 Version : 2

▣ Indicates information that has changed from previously issued version.

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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

Section 16. Other information

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