

**URALANE® 5779 A US**

Version 1.0      Revision Date: 01/19/2016      SDS Number: 400001008176      Date of last issue: -  
Date of first issue: 01/19/2016

**SECTION 1. IDENTIFICATION**

Product name : URALANE® 5779 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  
Telephone : Non-Emergency: (800) 257-5547  
E-mail address of person responsible for the SDS : MSDS@huntsman.com  
Emergency telephone : Chemtrec: (800) 424-9300 or (703) 527-3887

**Recommended use of the chemical and restrictions on use**

Recommended use : Prepolymer containing volatile isocyanates

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Acute toxicity (Inhalation) : Category 4  
Skin irritation : Category 2  
Eye irritation : Category 2A  
Respiratory sensitization : Category 1  
Skin sensitization : Category 1  
Specific target organ systemic toxicity - single exposure : Category 3 (Respiratory system)

**GHS Label element**

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H334 May cause allergy or asthma symptoms or breathing

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difficulties if inhaled.  
H335 May cause respiratory irritation.  
H332 Harmful if inhaled.

**Precautionary Statements****: Prevention:**

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
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 eye protection/ face protection.  
P280 Wear protective gloves.  
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 or doctor/ physician.  
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 or doctor/ physician.  
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 ingredients**

Chemical Name	CAS-No.	Concentration (%)
Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]	ACCN # 139812	30 - 60
4,4'-methylenedicyclohexyl diisocyanate	5124-30-1	13 - 30
2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]	54954-83-5	7 - 13

**SECTION 4. FIRST AID MEASURES**

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- General advice : Move out of dangerous area.  
Consult a physician.  
Show this material safety data sheet to the doctor in attendance.  
Symptoms of poisoning may appear several hours later.  
Do not leave the victim unattended.
- If inhaled : Call a physician or poison control center immediately.  
If unconscious place in recovery position and seek medical advice.
- 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.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do not give milk or alcoholic beverages.  
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.

**SECTION 5. FIRE-FIGHTING MEASURES**

- Suitable extinguishing media : No data is available on the product itself.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : No data is available on the product itself.
- Specific extinguishing methods : No data is available on the product itself.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Evacuate personnel to safe areas.
- 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 vapors/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 sensitization 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.  
Electrical installations / working materials must comply with the technological safety standards.
- Materials to avoid : Strong acids  
  
Strong bases  
  
Strong oxidizing agents
- Recommended storage temperature : 2 - 40 °C

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**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Ingredients with workplace control parameters**

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
4,4'-methylenedicyclohexyl diisocyanate	5124-30-1	TWA	0.005 ppm	ACGIH
		C	0.01 ppm 0.11 mg/m <sup>3</sup>	NIOSH REL
		C	0.01 ppm 0.11 mg/m <sup>3</sup>	OSHA PEL

**Personal protective equipment**

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

Respiratory protection : No personal respiratory protective equipment normally required.

## Hand protection

Material : butyl-rubber

Break through time : > 8 h

Solvent-resistant gloves (butyl-rubber)

Nitrile rubber

Neoprene gloves

10 - 480 min

Remarks : 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

Color : light blue

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Odor : pungent

Odor Threshold : No data is available on the product itself.

pH : No data is available on the product itself.

Flash point : > 200 °C  
Method: closed cup

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Upper explosion limit : No data is available on the product itself.

Lower explosion limit : No data is available on the product itself.

Vapor pressure : < 0.00075 hPa (20 °C)

Relative vapor density : No data is available on the product itself.

Relative density : 1.4

Density : No data is available on the product itself.

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.

Autoignition temperature : No data is available on the product itself.

Thermal decomposition : No data is available on the product itself.

Viscosity  
Viscosity, dynamic : ca. 50,000 mPa.s

Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : No decomposition if stored and applied as directed.

Conditions to avoid : No data available

Hazardous decomposition products : Nitrogen oxides (NOx)

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Carbon oxides  
Burning produces obnoxious and toxic fumes.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : No data is available on the product itself.

**Acute toxicity****Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

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

Acute inhalation toxicity - Product : Acute toxicity estimate: 0.33 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity - Product : Acute toxicity estimate : > 5,000 mg/kg  
Method: Calculation method

Acute toxicity (other routes of administration) : No data available

**Skin corrosion/irritation****Product:**

Remarks: May cause skin irritation and/or dermatitis.

Remarks: May cause skin irritation and/or dermatitis.

**Serious eye damage/eye irritation****Product:**

Remarks: May cause irreversible eye damage.

Remarks: May cause irreversible eye damage.

**Respiratory or skin sensitization****Product:**

Remarks: Causes sensitization.

Assessment: No data available

**Germ cell mutagenicity****Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

Genotoxicity in vitro : Concentration: 50 ug/plate  
Metabolic activation: with and without metabolic activation

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Method: OECD Test Guideline 471  
Result: negative

Concentration: 28 µg/L  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

Concentration: 96 µg/L  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Genotoxicity in vivo : No data available

**Carcinogenicity**

No data available

Carcinogenicity - Assessment : No data available

**IARC**

No ingredient 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 ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP**

No ingredient 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****Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

Effects on fertility : Species: Rat, male and female  
Application Route: Inhalation  
Target Organs: Respiratory Tract  
Method: OECD Test Guideline 421

**Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

Effects on fetal development : Species: Rat, female  
Application Route: Inhalation  
General Toxicity Maternal: NOAEL (No observed adverse effect level): 1 mg/m<sup>3</sup>  
Method: OECD Test Guideline 414  
Result: No teratogenic effects.

Reproductive toxicity - Assessment : No data available

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**STOT-single exposure****Ingredients:**

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatocyclohexane]:

Routes of exposure: inhalation (dust/mist/fume)

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

4,4'-methylenedicyclohexyl diisocyanate:

Routes of exposure: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

2-Oxepanone, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and 2,2'-oxybis[ethanol]:

Routes of exposure: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

**STOT-repeated exposure**

No data available

**Repeated dose toxicity****Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

Species: Rat, male and female

NOEC: 3 mg/m<sup>3</sup>

Test atmosphere: dust/mist

Exposure time: 13 Weeks

Number of exposures: 6 h

Method: OECD Test Guideline 413

Repeated dose toxicity - : No data available

Assessment

**Aspiration toxicity**

No data available

**Experience with human exposure**

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

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Ingestion: No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

**Further information****Product:**

Remarks: No data available

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

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.

**Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

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.

**Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

Toxicity to algae : EgC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): > 5 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: Directive 67/548/EEC, Annex V, C.3.

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

Toxicity to daphnia and other aquatic invertebrates : No data available

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(Chronic toxicity)

M-Factor (Chronic aquatic toxicity) : No data available

Toxicity to bacteria : No data available

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment

**Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

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

**Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

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

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Further information:

No data available

**Persistence and degradability****Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

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.

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

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ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

**Bioaccumulative potential**

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

**Mobility in soil**

Mobility : No data available

Distribution among environmental compartments : No data available

Stability in soil : No data available

**Other adverse effects**

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

**Hazardous to the ozone layer**

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).

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Additional ecological information - Product : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

Global warming potential (GWP) : No data available

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

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

**SECTION 14. TRANSPORT INFORMATION****International Regulation****IATA**

Not regulated as a dangerous good

**IMDG**

Not regulated as a dangerous good

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

Not applicable for product as supplied.

**Domestic regulation****DOT Classification**

Not regulated as a dangerous good

**SECTION 15. REGULATORY INFORMATION**

**TSCA - 5(a) Significant New Use Rule List of Chemicals** : Not relevant

**EPCRA - Emergency Planning and Community Right-to-Know**

**SARA 311/312 Hazards** : No SARA Hazards

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

4,4'-methylenedicyclohexyl diisocyanate      5124-30-1      14.33 %

**Clean Air Act**

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).

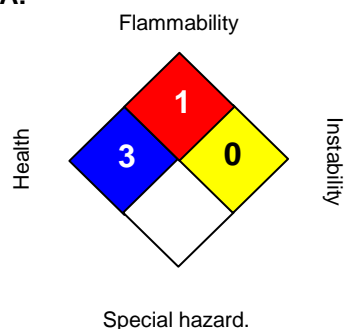
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

**California Prop 65**      This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**The ingredients of this product are reported in the following inventories:**

TSCA : On TSCA Inventory  
 DSL : Low volume exemption  
 AICS : Low volume exemption  
 NZIoC : Not in compliance with the inventory  
 ENCS : Not in compliance with the inventory  
 ISHL : 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

**SECTION 16. OTHER INFORMATION****Further information****NFPA:****HMIS III:**

<b>HEALTH</b>	<b>3</b>
<b>FLAMMABILITY</b>	<b>1</b>
<b>PHYSICAL HAZARD</b>	<b>1</b>

0 = not significant, 1 =Slight,

2 = Moderate, 3 = High

4 = Extreme, \* = Chronic

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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.

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