

## SAFETY DATA SHEET

Hardener S66/14

### Section 1. Identification

GHS product identifier : Hardener S66/14  
SDS code : A36870

#### Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Industrial use	
Uses advised against	
All other uses	

#### Supplier's details

International Paint LLC  
1 East Water Street  
Waukegan, IL 60085  
USA  
Tel. 1 847 623 4200  
Email: customer.service@akzonobel.com

Akzo Nobel Coatings Ltd.  
110 Woodbine Downs Blvd.  
Unit #4 Etobicoke, Ontario  
Canada M9W 5S6  
+1 (800) 618-1010

Importer : Cía. Mexicana de Pinturas International  
S.A. de C.V., Carretera Anillo Periférico,  
No Ext 205, No Interior A, Colonia HDA S JOSE, Garcia, Garcia, CP 66000, Nuevo  
Leon.  
RFC: ANA9510267C4

Emergency telephone number (with hours of operation) : CHEMTREC +1 (800) 424-9300 (Inside the US)  
CHEMTREC International +1 (703) 527-3887 (Outside the US, collect calls accepted)

### 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 : FLAMMABLE LIQUIDS - Category 2  
EYE IRRITATION - Category 2A  
RESPIRATORY SENSITIZATION - Category 1  
SKIN SENSITIZATION - Category 1  
CARCINOGENICITY - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

#### GHS label elements

Date of issue/Date of revision

: 7/22/2024

Version : 1

Date of previous issue

: No previous validation

1/18

## Section 2. Hazards identification

### Hazard pictograms :



### Signal word

: Danger

### Hazard statements

: Highly flammable liquid and vapor.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Suspected of causing cancer.

### Precautionary statements

#### Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Wear respiratory protection. Keep away from heat, sparks and hot surfaces. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

#### Response

: IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or 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 advice or attention.

#### Storage

: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

#### Disposal

: Dispose of contents and container in accordance with all local, regional, national or international regulations.

#### Hazards not otherwise classified

: None known.

## Section 3. Composition/information on ingredients

### Substance/mixture :

Mixture

Ingredient name	%	CAS number
n-butyl acetate	≥25 - ≤50	123-86-4
Hexamethylene diisocyanate, oligomers	≥25 - ≤50	28182-81-2
Benzene, 2,4-diisocyanato-1-methyl-, polymer with 1,6-diisocyanatohexane	≥10 - ≤25	26426-91-5
2-methoxy-1-methylethyl acetate	≤10	108-65-6
xylene	≤5	1330-20-7
ethylbenzene	<1	100-41-4
4-methyl-m-phenylene diisocyanate	≤0.3	584-84-9

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

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

## Section 3. Composition/information on ingredients

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.

**Ingestion** : Wash out mouth with water. Remove dentures if any. 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. If necessary, call a poison center or physician. 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** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin contact** : May cause an allergic skin reaction.

**Ingestion** : Can cause central nervous system (CNS) depression.

#### 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  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness

## Section 4. First aid measures

**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** : 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.

**Specific treatments** : No specific treatment.

**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

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

**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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**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. Shut off all ignition sources. No flares, smoking or flames in hazard area. 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 specialized 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).

## Section 6. Accidental release measures

### Methods and materials for containment and cleaning up

#### **Small spill**

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

#### **Large spill**

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. 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. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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 a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

## Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
n-butyl acetate	<p><b>NIOSH REL (United States, 10/2020).</b>          STEL: 950 mg/m<sup>3</sup> 15 minutes.          STEL: 200 ppm 15 minutes.          TWA: 710 mg/m<sup>3</sup> 10 hours.          TWA: 150 ppm 10 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b>          TWA: 710 mg/m<sup>3</sup> 8 hours.          TWA: 150 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>          STEL: 950 mg/m<sup>3</sup> 15 minutes.          STEL: 200 ppm 15 minutes.          TWA: 710 mg/m<sup>3</sup> 8 hours.          TWA: 150 ppm 8 hours.</p> <p><b>ACGIH TLV (United States, 1/2022). [Butyl acetates]</b>          STEL: 150 ppm 15 minutes.          TWA: 50 ppm 8 hours.</p>
Hexamethylene diisocyanate, oligomers Benzene, 2,4-diisocyanato-1-methyl-, polymer with 1,6-diisocyanatohexane 2-methoxy-1-methylethyl acetate	<p>None.</p> <p>None.</p> <p><b>OARS WEEL (United States, 7/2018).</b>          TWA: 50 ppm 8 hours.</p> <p><b>ACGIH TLV (United States, 1/2022). [xylene]</b>  <b>Notes: 1996 Adoption Substances for which there is a Biological Exposure Index or Indices Refers to Appendix A -- Carcinogens.</b>          STEL: 651 mg/m<sup>3</sup> 15 minutes.          TWA: 434 mg/m<sup>3</sup> 8 hours.          TWA: 20 ppm 8 hours.</p> <p><b>OSHA PEL (United States, 5/2018). [Xylenes]</b>          TWA: 435 mg/m<sup>3</sup> 8 hours.          TWA: 100 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989). [Xylenes (o-, m-, p-isomers)]</b>          STEL: 655 mg/m<sup>3</sup> 15 minutes.          STEL: 150 ppm 15 minutes.          TWA: 435 mg/m<sup>3</sup> 8 hours.          TWA: 100 ppm 8 hours.</p>
xylene	<p><b>ACGIH TLV (United States, 1/2022).</b>  <b>Ototoxicant. Notes: Substances for which there is a Biological Exposure Index or Indices 2002 Adoption.</b>          TWA: 20 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 10/2020).</b>          STEL: 545 mg/m<sup>3</sup> 15 minutes.          STEL: 125 ppm 15 minutes.          TWA: 435 mg/m<sup>3</sup> 10 hours.          TWA: 100 ppm 10 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b>          TWA: 435 mg/m<sup>3</sup> 8 hours.          TWA: 100 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>          STEL: 545 mg/m<sup>3</sup> 15 minutes.          STEL: 125 ppm 15 minutes.          TWA: 435 mg/m<sup>3</sup> 8 hours.          TWA: 100 ppm 8 hours.</p>
ethylbenzene	<p><b>ACGIH TLV (United States, 1/2022).</b>  <b>Ototoxicant. Notes: Substances for which there is a Biological Exposure Index or Indices 2002 Adoption.</b>          TWA: 20 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 10/2020).</b>          STEL: 545 mg/m<sup>3</sup> 15 minutes.          STEL: 125 ppm 15 minutes.          TWA: 435 mg/m<sup>3</sup> 10 hours.          TWA: 100 ppm 10 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b>          TWA: 435 mg/m<sup>3</sup> 8 hours.          TWA: 100 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>          STEL: 545 mg/m<sup>3</sup> 15 minutes.          STEL: 125 ppm 15 minutes.          TWA: 435 mg/m<sup>3</sup> 8 hours.          TWA: 100 ppm 8 hours.</p>

## Section 8. Exposure controls/personal protection

4-methyl-m-phenylene diisocyanate	<p><b>ACGIH TLV (United States, 1/2022).</b>  <b>[Toluene diisocyanate, -2,4- or 2,6- (or as a mixture)]</b> Absorbed through skin. Skin sensitizer. Inhalation sensitizer.          STEL: 0.005 ppm 15 minutes. Form: Inhalable fraction and vapor          TWA: 0.001 ppm 8 hours. Form: Inhalable fraction and vapor</p> <p><b>OSHA PEL (United States, 5/2018).</b>          CEIL: 0.14 mg/m<sup>3</sup>          CEIL: 0.02 ppm</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>          STEL: 0.15 mg/m<sup>3</sup> 15 minutes.          STEL: 0.02 ppm 15 minutes.          TWA: 0.04 mg/m<sup>3</sup> 8 hours.          TWA: 0.01 ppm 8 hours.</p>
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**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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**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.

**Skin protection**

**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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**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** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

<b>Physical state</b>	: Liquid.
<b>Color</b>	: Colorless.
<b>Odor</b>	: Typical.
<b>Odor threshold</b>	: Not available.
<b>pH</b>	: Not applicable. [DIN EN 1262]
<b>Melting point/freezing point</b>	: Not available.
<b>Boiling point, initial boiling point, and boiling range</b>	: 126°C (258.8°F)
<b>Flash point</b>	: Closed cup: 22°C (71.6°F) [Pensky-Martens]
<b>Flammability</b>	: Not available.
<b>Lower and upper explosion limit</b>	: Greatest known range: Lower: 1.4% Upper: 7.6% (n-butyl acetate)
<b>Vapor pressure</b>	:

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
n-butyl acetate	11.25	1.5	DIN EN 13016-2			
xylene	6.7	0.89				
2-methoxy-1-methylethyl acetate	2.7	0.36				

<b>Relative vapor density</b>	: Not available.
<b>Relative density</b>	: 1 [ISO 8130-2/3]
<b>Solubility(ies)</b>	:

Not available.

<b>Partition coefficient: n-octanol/water</b>	: Not applicable.
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<b>Auto-ignition temperature</b>	:

Ingredient name	°C	°F	Method
2-methoxy-1-methylethyl acetate	333	631.4	
n-butyl acetate	415	779	EU A.15
xylene	432	809.6	

<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Kinematic: 40 mm <sup>2</sup> /s (40 cSt) [DIN EN ISO 3219]

<b>Weight Volatiles</b>	: 56.1% (w/w)
<b>Volume Volatiles</b>	: 61.54 % (v/v)
<b>Weight Solids</b>	: 43.90 % (w/w)
<b>Volume Solids</b>	: 38.46 % (v/v)
<b>Regulatory VOC</b>	: 4.7 lbs/gal 561 g/l minus water and exempt solvents
<b>VOC Actual</b>	: 4.7 lbs/gal 561 g/l

### Particle characteristics

<b>Median particle size</b>	: Not applicable.
<b>Percentage of particles with aerodynamic diameter ≤ 10 µm</b>	: 0

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	: 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	Result	Species	Dose	Exposure
n-butyl acetate	LC50 Inhalation Gas.	Rat	390 ppm	4 hours
	LC50 Inhalation Vapor	Mouse	6 g/m <sup>3</sup>	2 hours
	LC50 Inhalation Vapor	Rat	390 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Intraperitoneal	Mouse	1230 mg/kg	-
	LD50 Oral	Guinea pig	4700 mg/kg	-
	LD50 Oral	Mouse	6 g/kg	-
	LD50 Oral	Rabbit	3200 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	18500 mg/m <sup>3</sup>	1 hours
Hexamethylene diisocyanate, oligomers 2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Intraperitoneal	Mouse	750 mg/kg	-
	LD50 Intraperitoneal	Mouse	>1500 mg/kg	-
	LD50 Oral	Mouse	>5000 mg/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
	LD50 Oral	Rat	9000 mg/kg	-
	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6700 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LD50 Intraperitoneal	Mouse	1548 mg/kg	-
xylene	LD50 Intraperitoneal	Mouse	1548 mg/kg	-
	LD50 Intraperitoneal	Rat	2459 mg/kg	-
	LD50 Oral	Mouse	2119 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Subcutaneous	Rat	1700 mg/kg	-
	LC50 Inhalation Gas.	Rabbit	4000 ppm	4 hours
	LC50 Inhalation Vapor	Mouse	35500 mg/m <sup>3</sup>	2 hours
	LC50 Inhalation Vapor	Rat	55000 mg/m <sup>3</sup>	2 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
ethylbenzene	LD50 Dermal	Rabbit	17800 uL/kg	-
	LD50 Intraperitoneal	Mouse	2624 uL/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
	LC50 Inhalation Gas.	Guinea pig	13 ppm	4 hours
4-methyl-m-phenylene				

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diisocyanate	LC50 Inhalation Gas. LC50 Inhalation Gas. LC50 Inhalation Gas. LC50 Inhalation Gas. LC50 Inhalation Gas. LD50 Intravenous LD50 Oral	Mouse Mouse Rabbit Rat Rat Mouse Rat	10 ppm 10 ppm 11 ppm 14 ppm 14 ppm 56 mg/kg 5800 mg/kg	4 hours 4 hours 4 hours 4 hours 4 hours -
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### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
n-butyl acetate	Eyes - Moderate irritant Skin - Moderate irritant	Rabbit Rabbit	- -	100 mg 24 hours 500 mg	-
Hexamethylene diisocyanate, oligomers	Eyes - Moderate irritant	Rabbit	-	100 mg	-
xylene	Skin - Moderate irritant Eyes - Mild irritant Eyes - Severe irritant	Rabbit Rabbit Rabbit	- - -	500 mg 87 mg 24 hours 5 mg	-
	Skin - Mild irritant Skin - Moderate irritant Skin - Moderate irritant	Rat Rabbit Rabbit	- - -	8 hours 60 UI 100 % 24 hours 500 mg	-
ethylbenzene	Eyes - Severe irritant Skin - Mild irritant	Rabbit Rabbit	- -	500 mg 24 hours 15 mg	-
4-methyl-m-phenylene diisocyanate	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rat	-	8 hours 12 mg	-
	Skin - Severe irritant	Rabbit	-	500 mg	-

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Classification

Product/ingredient name	OSHA	IARC	NTP
xylene	-	3	-
ethylbenzene	-	2B	-
4-methyl-m-phenylene diisocyanate	-	2B	Reasonably anticipated to be a human carcinogen.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

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Name	Category	Route of exposure	Target organs
n-butyl acetate Hexamethylene diisocyanate, oligomers	Category 3 Category 3	- -	Narcotic effects Respiratory tract irritation
2-methoxy-1-methylethyl acetate xylene	Category 3 Category 3	- -	Narcotic effects Respiratory tract irritation
4-methyl-m-phenylene diisocyanate	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs

### Aspiration hazard

Name	Result
xylene	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin contact** : May cause an allergic skin reaction.

**Ingestion** : Can cause central nervous system (CNS) depression.

### 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  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness

**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.

## Section 11. Toxicological information

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**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.

**Reproductive toxicity** : No known significant effects or critical hazards.

## Numerical measures of toxicity

### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Product as-supplied	N/A	25995.5	118161.4	N/A	14.7
Hexamethylene diisocyanate, oligomers	N/A	N/A	N/A	N/A	4.625
xylene	N/A	1100	5000	N/A	N/A
ethylbenzene	N/A	N/A	N/A	11	N/A
4-methyl-m-phenylene diisocyanate	N/A	N/A	100	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
n-butyl acetate	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 62000 µg/l Fresh water	Fish - Danio rerio	96 hours
	Acute LC50 100000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 185000 µg/l Marine water	Fish - Menidia beryllina	96 hours
xylene	Acute LC50 18000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 90 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 8.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 16940 µg/l Fresh water	Fish - Carassius auratus	96 hours
	Acute LC50 15700 µg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
ethylbenzene	Acute LC50 20870 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 19000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 5400 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 4900 µg/l Marine water	Algae - Skeletonema costatum	72 hours

## Section 12. Ecological information

4-methyl-m-phenylene diisocyanate	Acute EC50 7700 µg/l Marine water	Algae - <i>Skeletonema costatum</i>	96 hours
	Acute EC50 6.53 mg/l Marine water	Crustaceans - <i>Artemia</i> sp. - Nauplii	48 hours
	Acute EC50 13.3 mg/l Marine water	Crustaceans - <i>Artemia</i> sp. - Nauplii	48 hours
	Acute EC50 2.97 mg/l Fresh water	<i>Daphnia</i> - <i>Daphnia magna</i> - Neonate	48 hours
	Acute EC50 2.93 mg/l Fresh water	<i>Daphnia</i> - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 8.78 mg/l Marine water	Crustaceans - <i>Artemia</i> sp. - Nauplii	48 hours
	Acute LC50 13.3 mg/l Marine water	Crustaceans - <i>Artemia</i> sp. - Nauplii	48 hours
	Acute LC50 40000 µg/l Marine water	Crustaceans - <i>Cancer magister</i> - <i>Zoea</i>	48 hours
	Acute LC50 18.4 mg/l Fresh water	<i>Daphnia</i> - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 13.9 mg/l Fresh water	<i>Daphnia</i> - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 75000 µg/l Fresh water	<i>Daphnia</i> - <i>Daphnia magna</i>	48 hours
	Acute LC50 5100 µg/l Marine water	Fish - <i>Menidia menidia</i>	96 hours
	Acute LC50 4.3 µl/L Marine water	Fish - <i>Morone saxatilis</i> - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 4200 µg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	Acute LC50 9090 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Acute LC50 9100 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Acute LC50 164.5 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Acute LC50 164500 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Acute LC50 164500 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
n-butyl acetate	2.3	-	low
Hexamethylene diisocyanate, oligomers	5.54	367.7	low
2-methoxy-1-methylethyl acetate	1.2	-	low
xylene	3.12	8.1 to 25.9	low
ethylbenzene	3.6	-	low
4-methyl-m-phenylene diisocyanate	3.43	-	low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

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

## 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
xylene	1330-20-7	Listed	U239

## Section 14. Transport information

The information provided in section 14 is based on a bulk package shipment via ground transport in North America. All shippers are responsible for ensuring the proper transportation classification and package/container requirements are followed for the relevant mode of transport.

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	UN1263	UN1263	UN1263	UN1263	UN1263
UN proper shipping name	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL
Transport hazard class(es)	3 	3 	3 	3 	3 
Packing group	II	III	II	II	II
Environmental hazards	No.	No.	No.	No.	No.

### Additional information

#### DOT Classification

: **Reportable quantity** 2363.2 lbs / 1072.9 kg [283.43 gal / 1072.9 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

**Viscous liquid exception** This class 3 material can be shipped as Packing Group III in packagings up to 450 L (30 L for passenger aircraft, 100 L for cargo aircraft).

#### TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

#### Mexico Classification

: **Viscous liquid exception** This class 3 material can be shipped as Packing Group III in packagings up to 450 L.

#### IMDG

: **Emergency schedules** F-E, \_S-E

**Viscous liquid exception** This class 3 material can be shipped as Packing Group III in packagings up to 450 L.

#### IATA

: **Viscous liquid exception** This class 3 material can be shipped as Packing Group III in packagings up to 30 L (100 L for cargo aircraft). Transport in accordance with this provision must be noted on the Shipper's Declaration.

## Section 14. Transport information

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 5(a)2 final significant new use rules:** No products found.  
**TSCA 5(e) substance consent order:** No products found.  
**TSCA 8(a) PAIR:** 2-methoxy-1-methylethyl acetate  
**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**TSCA 12(b) one-time export:** 4-methyl-m-phenylene diisocyanate  
**United States inventory (TSCA 8b):** All components are active or exempted.  
**Clean Water Act (CWA) 307:** ethylbenzene; hexamethylene-di-isocyanate; toluene  
**Clean Water Act (CWA) 311:** n-butyl acetate; xylene; ethylbenzene; toluene

**Clean Air Act Section 112** : Listed

**(b) Hazardous Air Pollutants (HAPs)**

**Clean Air Act Section 602** : Not listed  
**Class I Substances**

**Clean Air Act Section 602** : Not listed  
**Class II Substances**

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
4-methyl-m-phenylene diisocyanate	≤0.3	Yes.	500	-	100	-

**SARA 304 RQ** : 99552 lbs / 45196.6 kg [11939.7 gal / 45196.6 L]

### SARA 311/312

**Classification** : FLAMMABLE LIQUIDS - Category 2  
EYE IRRITATION - Category 2A  
RESPIRATORY SENSITIZATION - Category 1  
SKIN SENSITIZATION - Category 1  
CARCINOGENICITY - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

#### Composition/information on ingredients

## Section 15. Regulatory information

Name	%	Classification
n-butyl acetate	≥25 - ≤50	FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Hexamethylene diisocyanate, oligomers	≥25 - ≤50	ACUTE TOXICITY (inhalation) - Category 4 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Benzene, 2,4-diisocyanato-1-methyl-, polymer with 1,6-diisocyanatohexane	≥10 - ≤25	EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1
2-methoxy-1-methylethyl acetate	≤10	FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
xylene	≤5	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
ethylbenzene	<1	ASPIRATION HAZARD - Category 1 FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
4-methyl-m-phenylene diisocyanate	≤0.3	ASPIRATION HAZARD - Category 1 ACUTE TOXICITY (inhalation) - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	xylene ethylbenzene 4-methyl-m-phenylene diisocyanate	1330-20-7 100-41-4 584-84-9	≤5 <1 ≤0.3
<b>Supplier notification</b>	xylene ethylbenzene 4-methyl-m-phenylene diisocyanate	1330-20-7 100-41-4 584-84-9	≤5 <1 ≤0.3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

#### Massachusetts

: The following components are listed: BUTYL ACETATE; XYLENE; DIMETHYLBENZENE

#### New York

: The following components are listed: Butyl acetate; Xylene mixed

#### New Jersey

: The following components are listed: n-BUTYL ACETATE; XYLENES; BENZENE, DIMETHYL-; TOLUENE-2,4-DIISOCYANATE

#### Pennsylvania

: The following components are listed: ACETIC ACID, BUTYL ESTER; BENZENE, DIMETHYL-

### California Prop. 65

 **WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

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## Section 15. Regulatory information

Ingredient name	No significant risk level	Maximum acceptable dosage level	Type of toxicity
ethylbenzene 4-methyl-m-phenylene diisocyanate toluene	Yes. Yes. -	- - Yes.	Cancer Cancer Developmental

### Inventory list

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Eurasian Economic Union</b>	: <b>Russian Federation inventory:</b> Not determined.
<b>Japan</b>	: <b>Japan inventory (CSCL):</b> All components are listed or exempted. <b>Japan inventory (ISHL):</b> Not determined.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are active or exempted.
<b>Viet Nam</b>	: Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
EYE IRRITATION - Category 2A	Calculation method
RESPIRATORY SENSITIZATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method

### History

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<b>Key to abbreviations</b>	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available SGG = Segregation Group UN = United Nations

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## Section 16. Other information

 Indicates information that has changed from previously issued version.

### Notice to reader

FOR PROFESSIONAL USE ONLY

**IMPORTANT NOTE** The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws. Any person using this product must determine for themselves, by preliminary tests or otherwise, the suitability of this product for their purposes. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Safety Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. The application, use and processing of AkzoNobel's products and the products manufactured by Buyer on the basis of AkzoNobel's technical advice are beyond AkzoNobel's control and, therefore, entirely Buyer's own responsibility. AkzoNobel makes no warranty as to accuracy and/or sufficiency of such information and/or suggestions, as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Nothing contained herein shall be construed as granting or extending any license under any patent. All products supplied and technical advice given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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