

## SAFETY DATA SHEET

Eclipse High Solids Polyurethane Enamel ECL-F-92

### Section 1. Identification

**GHS product identifier** : Eclipse High Solids Polyurethane Enamel ECL-F-92  
**SDS code** : 004762

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

Identified uses
Industrial use
Uses advised against
Consumer use

**Manufacturer** : Akzo Nobel Coatings, Inc.  
 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  
 ACUTE TOXICITY (oral) - Category 4  
 EYE IRRITATION - Category 2A  
 SKIN SENSITIZATION - Category 1  
 CARCINOGENICITY - Category 2  
 TOXIC TO REPRODUCTION (Fertility) - Category 2  
 TOXIC TO REPRODUCTION (Unborn child) - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

#### GHS label elements

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## Section 2. Hazards identification

### Hazard pictograms



### Signal word

: Danger

### Hazard statements

: Highly flammable liquid and vapor.  
 Harmful if swallowed.  
 Causes serious eye irritation.  
 May cause an allergic skin reaction.  
 Suspected of damaging fertility or the unborn child.  
 Suspected of causing cancer.  
 May cause drowsiness or dizziness.

### Precautionary statements

#### Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear protective clothing. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

#### Response

: IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. 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.

#### Storage

: Store locked up.

#### Disposal

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

### Hazards not otherwise classified

: None known.

## Section 3. Composition/information on ingredients

### Substance/mixture

: Mixture

Ingredient name	%	CAS number
heptan-2-one	≥25 - ≤50	110-43-0
polyester polyol	≥10 - ≤20	-
butanone	≥10 - ≤20	78-93-3
silicon dioxide	≥10 - ≤20	7631-86-9
aluminium hydroxide	≥10 - ≤20	21645-51-2
pentane-2,4-dione	≤5	123-54-6
carbon black, respirable powder	≤1	1333-86-4
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	≤1	1065336-91-5
butyl glycollate	≤0.3	7397-62-8

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 as hazardous to health or the environment and hence require reporting in this section.**

**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.
- 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. 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.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. 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:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## Section 4. First aid measures

**Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

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

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**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  
halogenated compounds  
metal oxide/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 should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. 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
heptan-2-one	<p><b>ACGIH TLV (United States, 3/2019).</b> TWA: 50 ppm 8 hours. TWA: 233 mg/m<sup>3</sup> 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 100 ppm 8 hours. TWA: 465 mg/m<sup>3</sup> 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 100 ppm 10 hours. TWA: 465 mg/m<sup>3</sup> 10 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 100 ppm 8 hours. TWA: 465 mg/m<sup>3</sup> 8 hours.</p>
polyester polyol butanone	<p>None.</p> <p><b>ACGIH TLV (United States, 3/2019). Notes:</b> <b>Substances for which there is a Biological Exposure Index or Indices</b> STEL: 885 mg/m<sup>3</sup> 15 minutes. STEL: 300 ppm 15 minutes. TWA: 590 mg/m<sup>3</sup> 8 hours. TWA: 200 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016).</b> STEL: 885 mg/m<sup>3</sup> 15 minutes. STEL: 300 ppm 15 minutes. TWA: 590 mg/m<sup>3</sup> 10 hours. TWA: 200 ppm 10 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 590 mg/m<sup>3</sup> 8 hours. TWA: 200 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> STEL: 885 mg/m<sup>3</sup> 15 minutes. STEL: 300 ppm 15 minutes. TWA: 590 mg/m<sup>3</sup> 8 hours. TWA: 200 ppm 8 hours.</p>
silicon dioxide aluminium hydroxide pentane-2,4-dione	<p>None.</p> <p>None.</p> <p><b>ACGIH TLV (United States, 3/2019).</b> <b>Absorbed through skin.</b> TWA: 25 ppm 8 hours.</p>
carbon black, respirable powder	<p><b>ACGIH TLV (United States, 3/2019). Notes:</b> <b>Substance identified by other sources as a suspected or confirmed human carcinogen. 1996 Adoption Refers to Appendix A -- Carcinogens.</b> TWA: 3 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction</p> <p><b>NIOSH REL (United States, 10/2016). Notes:</b> <b>See Appendix A - NIOSH Potential Occupational Carcinogen See Appendix C - Supplemental Exposure Limits</b> TWA: 3.5 mg/m<sup>3</sup> 10 hours.</p> <p><b>NIOSH REL (United States, 10/2016). Notes:</b> <b>Carbon black in presence of polycyclic aromatic hydrocarbons (PAHs) See Appendix A - NIOSH Potential Occupational Carcinogen See Appendix C - Supplemental Exposure Limits</b> TWA: 0.1 mg of PAHs/cm<sup>3</sup> 10 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b></p>



## Section 8. Exposure controls/personal protection

Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate butyl glycollate

TWA: 3.5 mg/m<sup>3</sup> 8 hours.  
**OSHA PEL 1989 (United States, 3/1989).**  
 TWA: 3.5 mg/m<sup>3</sup> 8 hours.  
 None.  
 None.

**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

### Appearance

**Physical state** : Liquid.

**Color** : Black.

**Odor** : Solvent.

**Odor threshold** : Not available.

**pH** : Not available.

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## Section 9. Physical and chemical properties

<b>Melting/freezing point</b>	: Not available.
<b>Boiling point</b>	: 80°C (176°F)
<b>boiling range</b>	: Not available.
<b>Flash point</b>	: Closed cup: -4°C (24.8°F)
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Upper:</b>	: Not determined.
<b>Lower:</b>	: Not determined.
<b>Vapor pressure</b>	: Not available.
<b>Vapor density</b>	: Not available.
<b>Relative density</b>	: 1.053
<b>Density</b>	: 8.79 lbs/gal      1.053 g/cm <sup>3</sup>
<b>Solubility</b>	: Not available.
<b>Solubility in water</b>	: Not available.
<b>Partition coefficient: n-octanol/water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Kinematic (room temperature): 1.71 cm <sup>2</sup> /s (171 cSt)
<b>Weight Volatiles</b>	: 53.73% (w/w)
<b>Volume Volatiles</b>	: 68.47 % (v/v)
<b>Weight Solids</b>	: 46.27 % (w/w)
<b>Volume Solids</b>	: 31.53 % (v/v)
<b>Regulatory VOC</b>	: 4.7 lbs/gal      566 g/l      minus water and exempt solvents
<b>VOC Actual</b>	: 4.7 lbs/gal      566 g/l

## 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
heptan-2-one	LC50 Inhalation Vapor	Rat	16.7 mg/l	4 hours
	LD50 Dermal	Rabbit	12600 uL/kg	-
	LD50 Intraperitoneal	Mouse	400 mg/kg	-
	LD50 Intraperitoneal	Rat	800 mg/kg	-
	LD50 Oral	Mouse	730 mg/kg	-
	LD50 Oral	Rat	1670 mg/kg	-
	LD50 Oral	Rat	1600 mg/kg	-
butanone	LC50 Inhalation Vapor	Mouse	32 g/m <sup>3</sup>	4 hours
	LC50 Inhalation Vapor	Rat	23500 mg/m <sup>3</sup>	8 hours
	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Intraperitoneal	Guinea pig	2 g/kg	-
	LD50 Intraperitoneal	Mouse	616 mg/kg	-
	LD50 Intraperitoneal	Rat	607 mg/kg	-
	LD50 Oral	Mouse	3000 mg/kg	-
pentane-2,4-dione	LD50 Oral	Rat	2737 mg/kg	-
	LC50 Inhalation Vapor	Rat	5.1 mg/l	4 hours
	LD50 Dermal	Rat	790 mg/kg	-
carbon black, respirable powder	LD50 Oral	Rat - Female	570 mg/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
heptan-2-one	Skin - Mild irritant	Rabbit	-	24 hours 14 mg	-
butanone	Skin - Mild irritant	Rabbit	-	24 hours 14 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 402 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
silicon dioxide	Eyes - Mild irritant	Rabbit	-	24 hours 25 mg	-
pentane-2,4-dione	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Skin - Mild irritant	Rabbit	-	488 mg	-
	Skin - Mild irritant	Rabbit	-	6 hours 11.2 MI I	-
	Skin - Moderate irritant	Rabbit	-	48 hours 11.2 MI I	-
	Skin - Moderate irritant	Rabbit	-	6 hours 33.6 MI I	-

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Classification

Product/ingredient name	OSHA	IARC	NTP
silicon dioxide	-	3	-
carbon black, respirable powder	-	2B	-

## Section 11. Toxicological information

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
heptan-2-one	Category 3	Not applicable.	Narcotic effects
butanone	Category 3	Not applicable.	Narcotic effects

### 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** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. 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:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### 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.

**Teratogenicity** : Suspected of damaging the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : Suspected of damaging fertility.

## Numerical measures of toxicity

### Acute toxicity estimates

Route	ATE value
Oral	1334.6 mg/kg
Dermal	23103.9 mg/kg
Inhalation (vapors)	36.57 mg/l

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
heptan-2-one butanone	Acute LC50 131000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 >500 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
pentane-2,4-dione	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 5600 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Acute EC50 75000 µg/l Fresh water	Crustaceans - Ceriodaphnia reticulata - Larvae	48 hours
	Acute EC50 75000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute EC50 75000 µg/l Fresh water	Daphnia - Daphnia pulex - Larvae	48 hours
	Acute LC50 35400 µl/L Fresh water	Daphnia - Daphnia magna	48 hours
carbon black, respirable powder	Acute LC50 47600 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 74300 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 66900 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 60100 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 71600 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 71700 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 37.563 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 61.547 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours

## Section 12. Ecological information

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
heptan-2-one	2.26	-	low
butanone	0.3	-	low
pentane-2,4-dione	0.68	-	low
butyl glycollate	0.38	-	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.

## 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	PAINT	PAINT	PAINT	PAINT
Transport hazard class(es)	3 	3 	3 	3 	3 
Packing group	II	II	II	II	II
Environmental hazards	No.	No.	No.	No.	No.

### Additional information

Date of issue/Date of revision : 9/15/2023

Version : 1.02

Date of previous issue : 9/15/2023

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## Section 14. Transport information

- DOT Classification** : **Reportable quantity** 38693 lbs / 17566.6 kg [4407 gal / 16682.5 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.  
**Special provisions** 383
- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).
- IMDG** : **Emergency schedules** F-E, \_S-E\_
- 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:** pentane-2,4-dione  
**TSCA 5(e) substance consent order:** No products found.  
**TSCA 8(a) PAIR:** pentane-2,4-dione; 2-methoxy-1-methylethyl acetate  
**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**TSCA 12(b) one-time export:** pentane-2,4-dione  
**United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 307:** ethylbenzene; toluene  
**Clean Water Act (CWA) 311:** xylene; ethylbenzene; toluene; n-butyl acetate; Phosphoric acid, solution
- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed
- Clean Air Act Section 602 Class I Substances** : Not listed
- Clean Air Act Section 602 Class II Substances** : Not listed
- DEA List I Chemicals (Precursor Chemicals)** : Not listed
- DEA List II Chemicals (Essential Chemicals)** : Listed

### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
No products were found.						

### SARA 311/312

- Classification** : FLAMMABLE LIQUIDS - Category 2  
ACUTE TOXICITY (oral) - Category 4  
EYE IRRITATION - Category 2A  
SKIN SENSITIZATION - Category 1  
CARCINOGENICITY - Category 2  
TOXIC TO REPRODUCTION (Fertility) - Category 2  
TOXIC TO REPRODUCTION (Unborn child) - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

## Section 15. Regulatory information

### Composition/information on ingredients

Name	%	Classification
heptan-2-one	≥25 - ≤50	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
butanone	≥10 - ≤20	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
pentane-2,4-dione	≤5	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3
carbon black, respirable powder	≤1	CARCINOGENICITY - Category 2
Reaction mass of bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	≤1	SKIN SENSITIZATION - Category 1A TOXIC TO REPRODUCTION (Fertility) - Category 2
butyl glycollate	≤0.3	SERIOUS EYE DAMAGE - Category 1 TOXIC TO REPRODUCTION (Fertility) (oral) - Category 2 TOXIC TO REPRODUCTION (Unborn child) (oral) - Category 2

### SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	No products were found.		
Supplier notification	No products were found.		

### State regulations

#### Massachusetts

: The following components are listed: METHYL (N-AMYL) KETONE; 2,4-PENTANEDIONE; METHYL ETHYL KETONE; 2-BUTANONE; MEK; DIATOMACEOUS EARTH; AMORPHOUS SILICA

#### New York

: The following components are listed: Methyl ethyl ketone; 2-Butanone

#### New Jersey

: The following components are listed: METHYL n-AMYL KETONE; 2-HEPTANONE; PENTANE-2,4-DIONE; 2,4-PENTANEDIONE; METHYL ETHYL KETONE; 2-BUTANONE; CARBON BLACK

#### Pennsylvania

: The following components are listed: 2-HEPTANONE; 2,4-PENTANEDIONE; 2-BUTANONE; SILICA; CARBON BLACK

### California Prop. 65

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

Ingredient name	No significant risk level	Maximum acceptable dosage level
carbon black, respirable powder	-	-
ethylbenzene	Yes.	-
crystalline silica, respirable powder	-	-
cumene	-	-
toluene	-	Yes.

### Inventory list

#### Australia

: All components are listed or exempted.

#### Canada

: All components are listed or exempted.

#### China

: All components are listed or exempted.

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## Section 15. Regulatory information

<b>Europe</b>	: At least one component is not listed.
<b>Japan</b>	: <b>Japan inventory (CSCL)</b> : All components are listed or exempted. <b>Japan inventory (ISHL)</b> : At least one component is not listed.
<b>Malaysia</b>	: At least one component is not listed.
<b>New Zealand</b>	: At least one component is not listed.
<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>	: At least one component is not listed.
<b>Turkey</b>	: At least one component is not listed.
<b>Viet Nam</b>	: At least one component is not listed.

## Section 16. Other information

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

Health	*	2
Flammability		3
Physical hazards		0

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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
ACUTE TOXICITY (oral) - Category 4	Calculation method
EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Fertility) - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method

### History

<b>Date of printing</b>	: 1 December 2023
<b>Date of issue/ Date of revision</b>	: 15 September 2023
<b>Date of previous issue</b>	: 15 September 2023
<b>Version</b>	: 1.02
<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) UN = United Nations

<b>Date of issue/Date of revision</b>	: 9/15/2023	<b>Version</b>	: 1.02
<b>Date of previous issue</b>	: 9/15/2023		15/16

## 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.

IA\_493

## SAFETY DATA SHEET

Eclipse High Solids Polyurethane Enamel PC-233

### Section 1. Identification

**GHS product identifier** : Eclipse High Solids Polyurethane Enamel PC-233  
**SDS code** : 007899

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

Identified uses
Industrial use
Uses advised against
Consumer use

**Manufacturer** : Akzo Nobel Coatings, Inc.  
 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** : ACUTE TOXICITY (inhalation) - Category 4  
 SKIN SENSITIZATION - Category 1  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

#### GHS label elements

**Hazard pictograms** :



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**Date of previous issue** : 7/11/2023 1/11

## Section 2. Hazards identification

<b>Signal word</b>	: Warning
<b>Hazard statements</b>	: Harmful if inhaled. May cause an allergic skin reaction. May cause respiratory irritation.
<b>Precautionary statements</b>	
<b>Prevention</b>	: Wear protective gloves. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Contaminated work clothing must not be allowed out of the workplace.
<b>Response</b>	: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.
<b>Storage</b>	: Store locked up.
<b>Disposal</b>	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazards not otherwise classified</b>	: None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Ingredient name	%	CAS number
Hexamethylene diisocyanate, oligomers	≥90	28182-81-2

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 as hazardous to health or the environment and hence require reporting in this section.**

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

## Section 4. First aid measures

### Description of necessary first aid measures

<b>Eye contact</b>	: 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 if irritation occurs.
<b>Inhalation</b>	: 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.
<b>Skin contact</b>	: 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 if adverse health effects persist or are severe. 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** : No known significant effects or critical hazards.  
**Inhalation** : Harmful if inhaled. May cause respiratory irritation.  
**Skin contact** : May cause an allergic skin reaction.  
**Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

**Eye contact** : No specific data.  
**Inhalation** : Adverse symptoms may include the following:  
 respiratory tract irritation  
 coughing  
**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 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

## 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 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).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. 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. 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. 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. 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. See Section 10 for incompatible materials before handling or use.



## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Hexamethylene diisocyanate, oligomers	None.

**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.

**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: safety glasses with side-shields.

#### 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.

**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

### Appearance

**Physical state** : Liquid.

**Color** : Colorless.

**Odor** : Mild.

**Odor threshold** : Not available.

**pH** : Not available.

**Melting/freezing point** : Not available.

**Boiling point** : 45°C (113°F)

## Section 9. Physical and chemical properties

<b>boiling range</b>	: Not available.		
<b>Flash point</b>	: Closed cup: 166°C (330.8°F)		
<b>Evaporation rate</b>	: Not available.		
<b>Flammability (solid, gas)</b>	: Not available.		
<b>Upper/lower flammability or explosive limits</b>			
	<b>Upper:</b>	: Not determined.	
	<b>Lower:</b>	: Not determined.	
<b>Vapor pressure</b>	: Not available.		
<b>Vapor density</b>	: Not available.		
<b>Relative density</b>	: 1.17		
<b>Density</b>	: 9.76 lbs/gal	1.17 g/cm <sup>3</sup>	
<b>Solubility</b>	: Not available.		
<b>Solubility in water</b>	: Not available.		
<b>Partition coefficient: n-octanol/water</b>	: Not available.		
<b>Auto-ignition temperature</b>	: Not available.		
<b>Decomposition temperature</b>	: Not available.		
<b>Viscosity</b>	: Kinematic (room temperature): 4.7 cm <sup>2</sup> /s (470 cSt)		
<b>Weight Volatiles</b>	: 0% (w/w)		
<b>Volume Volatiles</b>	: 0.00 % (v/v)		
<b>Weight Solids</b>	: 100.00 % (w/w)		
<b>Volume Solids</b>	: 100 % (v/v)		
<b>Regulatory VOC</b>	: 0.0 lbs/gal	0 g/l	minus water and exempt solvents
<b>VOC Actual</b>	: 0.0 lbs/gal	0 g/l	

## 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>	: No specific data.
<b>Incompatible materials</b>	: No specific data.
<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
Hexamethylene diisocyanate, oligomers	LC50 Inhalation Dusts and mists	Rat	18500 mg/m <sup>3</sup>	1 hours

#### Irritation/Corrosion

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<b>Date of previous issue</b>	: 7/11/2023		6/11

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Hexamethylene diisocyanate, oligomers	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Hexamethylene diisocyanate, oligomers	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** : No known significant effects or critical hazards.  
**Inhalation** : Harmful if inhaled. May cause respiratory irritation.  
**Skin contact** : May cause an allergic skin reaction.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.  
**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
**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.

## Section 11. Toxicological information

### 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** : 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 (dusts and mists)	4.63 mg/l

## Section 12. Ecological information

### Toxicity

Not available.

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Hexamethylene diisocyanate, oligomers	5.54	367.7	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.

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## Section 13. Disposal considerations

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 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	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

**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) CDR Exempt/Partial exemption:** Not determined  
**TSCA 8(c) calls for record of SAR:** hexamethylene-di-isocyanate  
**United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 307:** hexamethylene-di-isocyanate

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

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

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

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

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

### SARA 302/304

#### Composition/information on ingredients

## Section 15. Regulatory information

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
No products were found.						

### SARA 311/312

**Classification** : ACUTE TOXICITY (inhalation) - Category 4  
 SKIN SENSITIZATION - Category 1  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

### Composition/information on ingredients

Name	%	Classification
Hexamethylene diisocyanate, oligomers	≥90	ACUTE TOXICITY (inhalation) - Category 4 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

### SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	No products were found.		
Supplier notification	No products were found.		

### State regulations

**Massachusetts** : None of the components are listed.  
**New York** : None of the components are listed.  
**New Jersey** : None of the components are listed.  
**Pennsylvania** : None of the components are listed.  
**California Prop. 65**

### Inventory list

**Australia** : All components are listed or exempted.  
**Canada** : All components are listed or exempted.  
**China** : All components are listed or exempted.  
**Europe** : All components are listed or exempted.  
**Japan** : **Japan inventory (CSCL)**: All components are listed or exempted.  
**Japan inventory (ISHL)**: All components are listed or exempted.  
**Malaysia** : All components are listed or exempted.  
**New Zealand** : All components are listed or exempted.  
**Philippines** : All components are listed or exempted.  
**Republic of Korea** : All components are listed or exempted.  
**Taiwan** : All components are listed or exempted.  
**Thailand** : At least one component is not listed.  
**Turkey** : All components are listed or exempted.  
**Viet Nam** : All components are listed or exempted.



## Section 16. Other information

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

Health	/	2
Flammability		1
Physical hazards		0

**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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (inhalation) - Category 4	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - 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) UN = United Nations

📌 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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