

## SAFETY DATA SHEET

### High Solids Epoxy Primer 10P20-14

#### Section 1. Identification

**GHS product identifier** : High Solids Epoxy Primer 10P20-14  
**Other means of identification** : 10P20-14\_Low IR Epoxy Primer Dk Green #718536

**Relevant identified uses of the substance or mixture and uses advised against**  
: FOR INDUSTRIAL USE ONLY

**Supplier/Manufacturer** : Akzo Nobel Coatings, Inc.  
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Waukegan, IL 60085  
USA  
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service@akzonobel.com

**Canadian Supplier** : Akzo Nobel Coatings Ltd.  
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**Emergency telephone number** : CHEMTREC +1 (800) 424-9300 (Inside the US)  
CHEMTREC International +1 (703) 527-3887 (Outside the US, collect calls accepted)

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Akzo Nobel Coatings Inc. encourages and expects you to read and understand this entire MSDS, as there is important information throughout the document. Further, Akzo Nobel Coatings Inc. expects you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

To promote safe handling, each customer or recipient should: 1) Notify its employees, agents, contractors, and others whom it knows or believes will use this material of the information contained in this MSDS and any other information regarding hazards and safety; 2) Furnish this same information to each of its customers for the product; 3) Request its customers to notify their employees, customers, and other users of the product of this information; and 4) Notify its employees, agents, contractors, and others that the precautions identified for this product and any other products with which mixtures may be created are transferable and cumulative to the mixture.

#### 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  
SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
CARCINOGENICITY - Category 1A

## Section 2. Hazards identification

### GHS label elements

#### Hazard pictograms



#### Signal word

: Danger

#### Hazard statements

: Highly flammable liquid and vapor.  
Causes serious eye irritation.  
Causes skin irritation.  
May cause cancer.

### Precautionary statements

#### Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Keep container tightly closed. Wash hands thoroughly after handling.

#### Response

: IF exposed or concerned: Get medical attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation 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. Store in a well-ventilated place. Keep cool.

#### 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
crystalline silica, respirable powder	30 - 35	14808-60-7
Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer	15 - 20	25085-99-8
strontium chromate	15 - 20	7789-06-2
4-methylpentan-2-one	5 - 10	108-10-1
heptan-2-one	5 - 10	110-43-0
xylene	1 - 5	1330-20-7
carbon black, respirable powder	1 - 5	1333-86-4
2,2-bis(acryloyloxymethyl)butyl acrylate	1 - 5	15625-89-5
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	1 - 5	25068-38-6
Solvent naphtha (petroleum), light arom.	1 - 5	64742-95-6
ethylbenzene	1 - 5	100-41-4
barium chromate	0 - 1	10294-40-3

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

### Section 3. Composition/information on ingredients

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 not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of 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. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation.
- Ingestion** : No known significant effects or critical hazards.

##### Over-exposure signs/symptoms

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

## Section 4. First aid measures

### 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. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

**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".

## Section 6. Accidental release measures

**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. 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). 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
crystalline silica, respirable powder	<p><b>OSHA PEL Z3 (United States, 6/2016).</b> TWA: 250 mppcf / (%SiO<sub>2</sub>+5) 8 hours. Form: Respirable Respirable TWA: 10 mg/m<sup>3</sup> / (%SiO<sub>2</sub>+2) 8 hours. Form: Respirable Respirable</p> <p><b>OSHA PEL (United States, 6/2016).</b> TWA: 50 µg/m<sup>3</sup> 8 hours. Form: Respirable dust</p> <p><b>ACGIH TLV (United States, 3/2016).</b> TWA: 0.025 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 0.05 mg/m<sup>3</sup> 10 hours. Form: respirable dust</p>
Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer	None.
strontium chromate	<p><b>ACGIH TLV (United States, 3/2016).</b> TWA: 0.0005 mg/m<sup>3</sup>, (measured as Cr) 8 hours.</p> <p><b>OSHA PEL Z2 (United States, 2/2013).</b> CEIL: 1 mg/10m<sup>3</sup></p> <p><b>OSHA PEL (United States, 6/2016).</b> TWA: 0.005 mg/m<sup>3</sup>, (as Cr) 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 0.0002 mg/m<sup>3</sup>, (as CR) 8 hours.</p>
4-methylpentan-2-one	<p><b>ACGIH TLV (United States, 3/2016).</b> STEL: 75 ppm 15 minutes. TWA: 20 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016).</b> STEL: 300 mg/m<sup>3</sup> 15 minutes. STEL: 75 ppm 15 minutes. TWA: 205 mg/m<sup>3</sup> 10 hours. TWA: 50 ppm 10 hours.</p> <p><b>OSHA PEL (United States, 6/2016).</b> TWA: 410 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.</p>
heptan-2-one	<p><b>ACGIH TLV (United States, 3/2016).</b> TWA: 233 mg/m<sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 465 mg/m<sup>3</sup> 10 hours. TWA: 100 ppm 10 hours.</p> <p><b>OSHA PEL (United States, 6/2016).</b> TWA: 465 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.</p>
xylene	<p><b>ACGIH TLV (United States, 3/2016).</b> STEL: 651 mg/m<sup>3</sup> 15 minutes.</p>

## Section 8. Exposure controls/personal protection

carbon black, respirable powder	<p>STEL: 150 ppm 15 minutes. TWA: 434 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours. <b>OSHA PEL (United States, 6/2016).</b> TWA: 435 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours. <b>ACGIH TLV (United States, 3/2016).</b> TWA: 3 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction <b>NIOSH REL (United States, 10/2016).</b> TWA: 3.5 mg/m<sup>3</sup> 10 hours. TWA: 0.1 mg of PAHs/cm<sup>3</sup> 10 hours. <b>OSHA PEL (United States, 6/2016).</b> TWA: 3.5 mg/m<sup>3</sup> 8 hours.</p>
2,2-bis(acryloyloxymethyl)butyl acrylate	<p><b>AIHA WEEL (United States, 10/2011).</b> <b>Absorbed through skin.</b> TWA: 1 mg/m<sup>3</sup> 8 hours. None. None. <b>ACGIH TLV (United States, 3/2016).</b> TWA: 20 ppm 8 hours. <b>NIOSH REL (United States, 10/2016).</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. <b>OSHA PEL (United States, 6/2016).</b> TWA: 435 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.</p>
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin Solvent naphtha (petroleum), light arom. ethylbenzene	<p><b>OSHA PEL Z2 (United States, 2/2013).</b> CEIL: 1 mg/10m<sup>3</sup> <b>ACGIH TLV (United States, 3/2016).</b> TWA: 0.01 mg/m<sup>3</sup>, (measured as Cr) 8 hours. Form: Insoluble <b>OSHA PEL (United States, 6/2016).</b> TWA: 0.005 mg/m<sup>3</sup>, (as Cr) 8 hours. <b>NIOSH REL (United States, 10/2016).</b> TWA: 0.0002 mg/m<sup>3</sup>, (as CR) 8 hours.</p>
barium chromate	

- 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.

## Section 8. Exposure controls/personal protection

### 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. 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** : Green [Dark]
- Odor** : Ketone.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting/freezing point** : Not available.
- Boiling point** : Not available.
- boiling range** : Not available.
- Flash point** : Closed cup: 15.6°C (60.1°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits**
- Upper:** : Not determined.
- Lower:** : Not determined.



## Section 9. Physical and chemical properties

<b>Vapor pressure</b>	:	Not available.	
<b>Vapor density</b>	:	Not available.	
<b>Relative density</b>	:	1.568	
<b>Density</b>	:	13.09 lbs/gal	1.568 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): 0.35 cm <sup>2</sup> /s (35 cSt) Kinematic (40°C (104°F)): 0.35 cm <sup>2</sup> /s (35 cSt)	
<b>Weight Volatiles</b>	:	20.48% (w/w)	
<b>Volume Volatiles</b>	:	60.84 % (v/v)	
<b>Weight Solids</b>	:	79.52 % (w/w)	
<b>Volume Solids</b>	:	39.16 % (v/v)	
<b>Regulatory VOC</b>	:	Not enough data available to calculate	Not g/l minus water and exempt solvents enough data available to calculate
<b>VOC Actual</b>	:	Not enough data available to calculate	Not g/l enough data available to calculate

## 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
strontium chromate	LD50 Oral	Rat	3118 mg/kg	-
4-methylpentan-2-one	LD50 Oral	Rat	2080 mg/kg	-
heptan-2-one	LD50 Oral	Rat	1600 mg/kg	-
xylene	LD50 Oral	Rat	4300 mg/kg	-
carbon black, respirable powder	LD50 Oral	Rat	>15400 mg/kg	-
2,2-bis(acryloyloxymethyl) butyl acrylate	LD50 Dermal	Rabbit	5170 mg/kg	-
Solvent naphtha (petroleum), light arom.	LD50 Oral	Rat	8400 mg/kg	-
ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
4-methylpentan-2-one	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
heptan-2-one	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
2,2-bis(acryloyloxymethyl) butyl acrylate	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 microliters	-
Solvent naphtha (petroleum), light arom. ethylbenzene	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters	-
	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-

#### Sensitization

## Section 11. Toxicological information

Not available.

### **Mutagenicity**

Not available.

### **Carcinogenicity**

Not available.

### **Classification**

Product/ingredient name	OSHA	IARC	NTP
crystalline silica, respirable powder	-	1	Known to be a human carcinogen.
strontium chromate	+	1	Known to be a human carcinogen.
4-methylpentan-2-one	-	2B	-
xylene	-	3	-
carbon black, respirable powder	-	2B	-
ethylbenzene	-	2B	-
barium chromate	+	1	Known to be a human carcinogen.

### **Reproductive toxicity**

Not available.

### **Teratogenicity**

Not available.

### **Specific target organ toxicity (single exposure)**

Name	Category	Route of exposure	Target organs
Solvent naphtha (petroleum), light arom.	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

### **Specific target organ toxicity (repeated exposure)**

Not available.

### **Aspiration hazard**

Name	Result
Solvent naphtha (petroleum), light arom. ethylbenzene	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

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

### **Potential acute health effects**

**Eye contact** : Causes serious eye irritation.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes skin irritation.  
**Ingestion** : No known significant effects or critical hazards.

## Section 11. Toxicological information

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

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

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

#### Short term exposure

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

#### Long term exposure

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

### Potential chronic health effects

Not available.

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	3267 mg/kg

## Section 12. Ecological information

### Toxicity

## Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
4-methylpentan-2-one	Acute LC50 505000 to 514000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
heptan-2-one	Acute LC50 131000 to 137000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
carbon black, respirable powder	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 37.563 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 2930 to 4400 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 40000 µg/l Marine water	Crustaceans - Cancer magister - Zoea	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
4-methylpentan-2-one	1.9	-	low
heptan-2-one	2.26	-	low
xylene	3.12	8.1 to 25.9	low
2,2-bis(acryloyloxymethyl) butyl acrylate	0.67	-	low
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin	2.64 to 3.78	31	low
Solvent naphtha (petroleum), light arom.	-	10 to 2500	high
ethylbenzene	3.6	-	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

**Special precautions for user** : Please Note: 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.

**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.

	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.	Yes.	No.	Yes.	No.

## Section 15. Regulatory information

### U.S. Federal regulations

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

#### SARA 311/312

**Classification** : Fire hazard  
 Immediate (acute) health hazard  
 Delayed (chronic) health hazard

#### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	strontium chromate	7789-06-2	15 - 20
	4-methylpentan-2-one	108-10-1	5 - 10
	xylene	1330-20-7	1 - 5
	ethylbenzene	100-41-4	1 - 5
	barium chromate	10294-40-3	0.1 - 1

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.

#### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
crystalline silica, respirable powder	Yes.	No.	No.	No.
strontium chromate	Yes.	Yes.	No.	No.
4-methylpentan-2-one	Yes.	No.	No.	No.
carbon black, respirable powder	Yes.	No.	No.	No.
ethylbenzene	Yes.	No.	No.	No.
barium chromate	Yes.	Yes.	No.	No.
cumene	Yes.	No.	No.	No.
toluene	No.	Yes.	No.	7000 µg/day (ingestion)
Formaldehyde, solution	Yes.	No.	No.	No.
phenyl glycidyl ether	Yes.	No.	Yes.	No.
1-chloro-2,3-epoxypropane	Yes.	Yes.	Yes.	No.

### International lists

#### National inventory

- Australia** : All components are listed or exempted.
- Canada** : At least one component is not listed in DSL but all such components are listed in NDSL.
- China** : All components are listed or exempted.
- Europe** : All components are listed or exempted.
- Japan** : **Japan inventory (ENCS):** At least one component is not listed.  
**Japan inventory (ISHL):** At least one component is not listed.
- Malaysia** : At least one component is not listed.

## Section 15. Regulatory information

<b>New Zealand</b>	: At least one component is not listed.
<b>Philippines</b>	: At least one component is not listed.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Turkey</b>	: At least one component is not listed.

## Section 16. Other information

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

Health	*	3
Flammability		3
Physical hazards		1

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

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

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



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### History

<b>Date of issue/Date of revision</b>	: 1 February 2019
<b>Version</b>	: 3.01
<b>MSDS #</b>	: NA0016                      1.00                      001440EFC0



## Section 16. Other information

### Key to abbreviations

: 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

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

## SAFETY DATA SHEET

### High Solids Epoxy Primer EC-214

#### Section 1. Identification

**GHS product identifier** : High Solids Epoxy Primer EC-214  
**Other means of identification** : EC-214\_Curing Solution for 10P20-14

**Relevant identified uses of the substance or mixture and uses advised against**  
: FOR INDUSTRIAL USE ONLY

**Supplier/Manufacturer** : Akzo Nobel Coatings, Inc.  
1 East Water Street  
Waukegan, IL 60085  
USA  
Tel. 1 847 623 4200  
Email: customer.  
service@akzonobel.com

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

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

**Date of issue / Date of revision** : 30 July 2018

**Safety Data Sheet Version** : 2

**Date of printing** : 30 July 2018

Akzo Nobel Coatings Inc. encourages and expects you to read and understand this entire MSDS, as there is important information throughout the document. Further, Akzo Nobel Coatings Inc. expects you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

To promote safe handling, each customer or recipient should: 1) Notify its employees, agents, contractors, and others whom it knows or believes will use this material of the information contained in this MSDS and any other information regarding hazards and safety; 2) Furnish this same information to each of its customers for the product; 3) Request its customers to notify their employees, customers, and other users of the product of this information; and 4) Notify its employees, agents, contractors, and others that the precautions identified for this product and any other products with which mixtures may be created are transferable and cumulative to the mixture.

#### 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  
SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A

## Section 2. Hazards identification

### GHS label elements

#### Hazard pictograms



#### Signal word

: Danger

#### Hazard statements

: Highly flammable liquid and vapor.  
Harmful if swallowed.  
Causes serious eye irritation.  
Causes skin irritation.

### Precautionary statements

#### Prevention

: Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

#### Response

: 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 or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation 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 in a well-ventilated place. Keep cool.

#### 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
toluene	30 - 35	108-88-3
benzyl alcohol	10 - 15	100-51-6
4-tert-butylphenol	5 - 10	98-54-4
N-(3-(trimethoxysilyl)propyl)ethylenediamine	5 - 10	1760-24-3
2,4,6-tris(dimethylaminomethyl)phenol	5 - 10	90-72-2
m-phenylenebis(methylamine)	1 - 5	1477-55-0
1,3-Cyclohexanedimethanamine	1 - 5	2579-20-6
3,6,9-triazaundecamethylenediamine	1 - 5	112-57-2
bis[(dimethylamino)methyl]phenol	1 - 5	71074-89-0

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.**

## 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 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 adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. 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** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation.
- Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

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

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

## Section 4. First aid measures

- 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
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). Do not ingest. Avoid contact with eyes, skin and clothing. 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. 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

## Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
toluene	<b>NIOSH REL (United States, 10/2016).</b> STEL: 560 mg/m <sup>3</sup> 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m <sup>3</sup> 10 hours. TWA: 100 ppm 10 hours. <b>OSHA PEL Z2 (United States, 2/2013).</b> AMP: 500 ppm 10 minutes. CEIL: 300 ppm TWA: 200 ppm 8 hours. <b>ACGIH TLV (United States, 3/2016).</b> TWA: 20 ppm 8 hours.
benzyl alcohol	<b>AIHA WEEL (United States, 10/2011).</b> TWA: 10 ppm 8 hours.
4-tert-butylphenol	None.
N-(3-(trimethoxysilyl)propyl)ethylenediamine	None.
2,4,6-tris(dimethylaminomethyl)phenol	None.
m-phenylenebis(methylamine)	<b>ACGIH TLV (United States, 3/2016).</b> <b>Absorbed through skin.</b> C: 0.1 mg/m <sup>3</sup> <b>NIOSH REL (United States, 10/2016).</b> <b>Absorbed through skin.</b> CEIL: 0.1 mg/m <sup>3</sup>
1,3-Cyclohexanedimethanamine	None.
3,6,9-triazaundecamethylenediamine	<b>AIHA WEEL (United States, 10/2011).</b> <b>Absorbed through skin. Skin sensitizer.</b> TWA: 5 mg/m <sup>3</sup> 8 hours.
bis[(dimethylamino)methyl]phenol	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. 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.

## Section 8. Exposure controls/personal protection

### 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

	<b>Physical state</b>	: Liquid.
	<b>Color</b>	: Yellow.
<b>Odor</b>		: Pungent.
<b>Odor threshold</b>		: Not available.
<b>pH</b>		: Not available.
<b>Melting/freezing point</b>		: Not available.
<b>Boiling point</b>		: 111°C (231.8°F)
<b>boiling range</b>		: Not available.
<b>Flash point</b>		: Closed cup: 4°C (39.2°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>		: 0.952
<b>Density</b>		: 7.94 lbs/gal      0.952 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.



## Section 9. Physical and chemical properties

<b>Auto-ignition temperature</b>	: Not available.		
<b>Decomposition temperature</b>	: Not available.		
<b>Viscosity</b>	: Kinematic (room temperature): 1.89 cm <sup>2</sup> /s (189 cSt)		
<b>Weight Volatiles</b>	: 43.28% (w/w)		
<b>Volume Volatiles</b>	: 45.13 % (v/v)		
<b>Weight Solids</b>	: 56.72 % (w/w)		
<b>Volume Solids</b>	: 54.87 % (v/v)		
<b>Regulatory VOC</b>	: 3.4	lbs/gal	413 g/l minus water and exempt solvents
<b>VOC Actual</b>	: 3.4	lbs/gal	413 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
toluene	LD50 Oral	Rat	636 mg/kg	-
benzyl alcohol	LC50 Inhalation Vapor	Rat	1000 ppm	8 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
N-(3-(trimethoxysilyl)propyl) ethylenediamine	LD50 Oral	Rat	1230 mg/kg	-
	LD50 Oral	Rat	2413 mg/kg	-
2,4,6-tris (dimethylaminomethyl)phenol	LD50 Dermal	Rat	1280 mg/kg	-
m-phenylenebis (methylamine)	LD50 Oral	Rat	1200 mg/kg	-
	LD50 Dermal	Rabbit	2 g/kg	-
1, 3-Cyclohexanedimethanamine	LD50 Oral	Rat	930 mg/kg	-
	LD50 Oral	Rat	880 mg/kg	-

## Section 11. Toxicological information

3,6,9-triazaundecamethylenediamine	LD50 Oral	Rat	3990 mg/kg	-
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### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	870 Micrograms	-
	Skin - Mild irritant	Pig	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 250 microliters	-
	Skin - Moderate irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
benzyl alcohol	Skin - Mild irritant	Man	-	500 milligrams	-
	Skin - Moderate irritant	Pig	-	48 hours 16 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
4-tert-butylphenol	Eyes - Severe irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms	-
	Skin - Mild irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
N-(3-(trimethoxysilyl)propyl)ethylenediamine	Eyes - Severe irritant	Rabbit	-	4 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	15 milligrams	-
2,4,6-tris(dimethylaminomethyl)phenol	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rat	-	24 hours 50 Micrograms	-
	Skin - Severe irritant	Rat	-	0.025 Milliliters	-
	Skin - Severe irritant	Rabbit	-	0.25 Milliliters	-
m-phenylenebis(methylamine)	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 50 Micrograms	-
3,6,9-triazaundecamethylenediamine	Eyes - Moderate irritant	Rabbit	-	24 hours 750 Micrograms	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Skin - Severe irritant	Rabbit	-	5 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Severe irritant	Rabbit	-	495	-

## Section 11. Toxicological information

				milligrams	
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### **Sensitization**

Not available.

### **Mutagenicity**

Not available.

### **Carcinogenicity**

Not available.

### **Classification**

Product/ingredient name	OSHA	IARC	NTP
toluene	-	3	-

### **Reproductive toxicity**

Not available.

### **Teratogenicity**

Not available.

### **Specific target organ toxicity (single exposure)**

Not available.

### **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** : No known significant effects or critical hazards.  
**Skin contact** : Causes skin irritation.  
**Ingestion** : Harmful if swallowed.

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

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

## Section 11. Toxicological information

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

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

**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
Oral	882 mg/kg
Dermal	5087.9 mg/kg

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
benzyl alcohol 4-tert-butylphenol	Acute LC50 10000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute EC50 3900 to 4500 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5.15 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 2.3 mg/l Fresh water	Fish - Cyprinus carpio - Adult	28 days

### Persistence and degradability

Not available.

### Bioaccumulative potential

## Section 12. Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
toluene	2.73	90	low
benzyl alcohol	0.87	-	low
4-tert-butylphenol	3	44 to 48	low
2,4,6-tris (dimethylaminomethyl)phenol	0.219	-	low
m-phenylenebis(methylamine)	0.18	2.69	low
1, 3-Cyclohexanedimethanamine	0.783	-	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

**Special precautions for user** : Please Note: 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.

**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.

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	UN3469	UN3469	UN3469	UN3469	UN3469
UN proper shipping name	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE
Transport hazard class(es)	3 (8)  	3 (8)  	3 (8)  	3 (8)  	3 (8)  
Packing group	II	II	II	II	II
Environmental hazards	No.	No.	No.	No.	No.

## Section 15. Regulatory information

### U.S. Federal regulations

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

### SARA 311/312

**Classification** : Fire hazard  
Immediate (acute) health hazard

### SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	toluene	108-88-3	30 - 35

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.

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

### International lists

#### National inventory

**Australia** : At least one component is not listed.

**Canada** : At least one component is not listed in DSL but all such components are listed in NDSL.

## Section 15. Regulatory information

<b>China</b>	: All components are listed or exempted.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (ENCS)</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>	: 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>	: At least one component is not listed.
<b>Turkey</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 are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

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

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



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### History

<b>Date of issue/Date of revision</b>	: 30 July 2018		
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<b>MSDS #</b>	: 004667	0009	0027F57E00

## Section 16. Other information

### Key to abbreviations

: 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

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.