

## SAFETY DATA SHEET

### Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

#### 1. Identification

##### Product identifier

**Product name** Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

**Product number** UR5641A, EUR5641RP250G, EUR5641K5K, ZE

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

**Application** Resin.

**Uses advised against** No specific uses advised against are identified.

##### Details of the supplier of the safety data sheet

##### Supplier

ELECTROLUBE. A division of HK WENTWORTH LTD  
 HK WENTWORTH-AMERICA  
 PO Box 126257  
 Benbrook, Texas 76126  
 USA  
 info@hkw.us.com  
 +1 888-501-9203

##### Emergency telephone number

**Emergency telephone** +1 202 464 2554 (USA only)  
 +44 1235 239670

#### 2. Hazard(s) identification

##### Classification of the substance or mixture

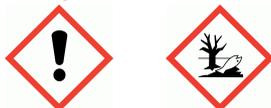
**Physical hazards** Not Classified

**Health hazards** Eye Irrit. 2A - H319

**Environmental hazards** Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

##### Label elements

##### Pictogram



##### Signal word

Warning

##### Hazard statements

H319 Causes serious eye irritation.  
 H410 Very toxic to aquatic life with long lasting effects.

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

<b>Precautionary statements</b>	P264 Wash contaminated skin thoroughly after handling.
	P273 Avoid release to the environment.
	P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P337+P313 If eye irritation persists: Get medical advice/ attention.
	P391 Collect spillage.
	P501 Dispose of contents/ container in accordance with national regulations.

### Other hazards

This product does not contain any substances classified as PBT or vPvB.

### 3. Composition/information on ingredients

#### Mixtures

<b>4-tert-butylphenyl diphenyl phosphate bis(4-tert-butylphenyl) phenyl phosphate triphenyl phosphate</b> CAS number: — M factor (Acute) = 1                      M factor (Chronic) = 1	<b>30-60%</b>
<b>Classification</b> Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	
<b>trimethoxyvinylsilane</b> CAS number: 2768-02-7	<b>1-5%</b>
<b>Classification</b> Eye Dam. 1 - H318	
<b>1-Methoxy-2-propanol</b> CAS number: 107-98-2	<b>&lt;1%</b>
<b>Classification</b> Flam. Liq. 3 - H226 STOT SE 3 - H336	
<b>Tetramethyl orthosilicate</b> CAS number: 681-84-5	<b>&lt;1%</b>
<b>Classification</b> Flam. Liq. 3 - H226 Acute Tox. 1 - H330 Skin Irrit. 2 - H315 Eye Dam. 1 - H318	

The full text for all hazard statements is displayed in Section 16.

### 4. First-aid measures

#### Description of first aid measures

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

<b>General information</b>	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
<b>Skin Contact</b>	Rinse with water.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue.

### **Most important symptoms and effects, both acute and delayed**

<b>General information</b>	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	Prolonged inhalation of high concentrations may damage respiratory system.
<b>Ingestion</b>	Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
<b>Skin contact</b>	Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	Irritating to eyes.

### **Indication of immediate medical attention and special treatment needed**

<b>Notes for the doctor</b>	Treat symptomatically.
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## **5. Fire-fighting measures**

### **Extinguishing media**

<b>Suitable extinguishing media</b>	The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.

### **Special hazards arising from the substance or mixture**

<b>Specific hazards</b>	Containers can burst violently or explode when heated, due to excessive pressure build-up.
<b>Hazardous combustion products</b>	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

### **Advice for firefighters**

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

<b>Protective actions during firefighting</b>	Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material.
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#### Environmental precautions

<b>Environmental precautions</b>	Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).
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#### Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labeled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
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<b>Reference to other sections</b>	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.
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### 7. Handling and storage

#### Precautions for safe handling

<b>Usage precautions</b>	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.
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## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

### Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

### Conditions for safe storage, including any incompatibilities

#### Storage precautions

Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Utilize retaining walls to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

#### Storage class

Miscellaneous hazardous material storage.

### Specific end uses(s)

#### Specific end use(s)

The identified uses for this product are detailed in Section 1.

## 8. Exposure Controls/personal protection

### Control parameters

#### Occupational exposure limits

##### 1-Methoxy-2-propanol

Long-term exposure limit (8-hour TWA): ACGIH 50 ppm 184 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): ACGIH 100 ppm 369 mg/m<sup>3</sup>

A4

##### Tetramethyl orthosilicate

Long-term exposure limit (8-hour TWA): ACGIH 1 ppm 6 mg/m<sup>3</sup>

ACGIH = American Conference of Governmental Industrial Hygienists.

A4 = Not Classifiable as a Human Carcinogen.

### Exposure controls

#### Protective equipment



#### Appropriate engineering controls

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimize worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimize exposure.

#### Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with OSHA 1910.133. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

<b>Hand protection</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
<b>Other skin and body protection</b>	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
<b>Hygiene measures</b>	Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
<b>Respiratory protection</b>	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.
<b>Environmental exposure controls</b>	Keep container tightly sealed when not in use. 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.

### 9. Physical and Chemical Properties

#### Information on basic physical and chemical properties

<b>Appearance</b>	Liquid.
<b>Color</b>	Clear.
<b>Odor</b>	Not known.
<b>pH</b>	Not available.
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Bulk density</b>	1.14 kg/l
<b>Solubility(ies)</b>	Not available.

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

<b>Partition coefficient</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition Temperature</b>	Not available.
<b>Viscosity</b>	250 mPa s @ 23°C
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidizing properties</b>	Does not meet the criteria for classification as oxidizing.

### 10. Stability and reactivity

<b>Reactivity</b>	See the other subsections of this section for further details.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
<b>Possibility of hazardous reactions</b>	No potentially hazardous reactions known.
<b>Conditions to avoid</b>	There are no known conditions that are likely to result in a hazardous situation.
<b>Materials to avoid</b>	No specific material or group of materials is likely to react with the product to produce a hazardous situation.
<b>Hazardous decomposition products</b>	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

### 11. Toxicological information

#### Information on toxicological effects

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

##### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

##### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met.

##### Skin corrosion/irritation

**Animal data** Based on available data the classification criteria are not met.

##### Serious eye damage/irritation

**Serious eye damage/irritation** Causes serious eye irritation.

##### Respiratory sensitization

**Respiratory sensitization** Based on available data the classification criteria are not met.

##### Skin sensitization

**Skin sensitization** Based on available data the classification criteria are not met.

##### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

##### Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met.

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

<b>IARC carcinogenicity</b>	None of the ingredients are listed or exempt.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	Based on available data the classification criteria are not met.
<b>Reproductive toxicity - development</b>	Based on available data the classification criteria are not met.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>STOT - single exposure</b>	Not classified as a specific target organ toxicant after a single exposure.
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>STOT - repeated exposure</b>	Not classified as a specific target organ toxicant after repeated exposure.
<b><u>Aspiration hazard</u></b>	
<b>Aspiration hazard</b>	Based on available data the classification criteria are not met.
<b><u>General information</u></b>	
<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	Prolonged inhalation of high concentrations may damage respiratory system.
<b>Ingestion</b>	Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
<b>Skin Contact</b>	Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	Irritating to eyes.
<b>Route of entry</b>	Ingestion Inhalation Skin and/or eye contact
<b>Target Organs</b>	No specific target organs known.

### 12. Ecological Information

<b>Toxicity</b>	Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.
<b><u>Persistence and degradability</u></b>	
<b>Persistence and degradability</b>	The degradability of the product is not known.
<b><u>Bioaccumulative potential</u></b>	
<b>Bio-Accumulative Potential</b>	No data available on bioaccumulation.
<b>Partition coefficient</b>	Not available.
<b><u>Mobility in soil</u></b>	
<b>Mobility</b>	No data available.
<b><u>Other adverse effects</u></b>	
<b>Other adverse effects</b>	None known.

### 13. Disposal considerations

#### Waste treatment methods

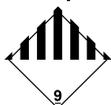
## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

<b>General information</b>	The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.
<b>Disposal methods</b>	Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

### 14. Transport information

<b>General</b>	For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.
<b>UN Number</b>	
<b>UN No. (TDG)</b>	3082
<b>UN No. (IMDG)</b>	3082
<b>UN No. (ICAO)</b>	3082
<b>UN No. (DOT)</b>	ID8000
<b>UN proper shipping name</b>	
<b>Proper shipping name (TDG)</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS 4-tert-butylphenyl diphenyl phosphate bis(4-tert-butylphenyl) phenyl phosphate triphenyl phosphate)
<b>Proper shipping name (IMDG)</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS 4-tert-butylphenyl diphenyl phosphate bis(4-tert-butylphenyl) phenyl phosphate triphenyl phosphate)
<b>Proper shipping name (ICAO)</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS 4-tert-butylphenyl diphenyl phosphate bis(4-tert-butylphenyl) phenyl phosphate triphenyl phosphate)
<b>Proper shipping name (DOT)</b>	CONSUMER COMMODITY
<b>Transport hazard class(es)</b>	
<b>DOT hazard class</b>	9
<b>DOT hazard label</b>	9
<b>TDG class</b>	9
<b>TDG label(s)</b>	9
<b>IMDG Class</b>	9
<b>ICAO class/division</b>	9

#### Transport labels



## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

### DOT transport labels



### Packing group

TDG Packing Group	III
IMDG packing group	III
ICAO packing group	III

### Environmental hazards

#### Environmentally Hazardous Substance



### Special precautions for user

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.

EmS F-A, S-F

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

## 15. Regulatory information

### US Federal Regulations

#### SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed or exempt.

#### CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

None of the ingredients are listed or exempt.

#### SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

#### SARA 313 Emission Reporting

None of the ingredients are listed or exempt.

#### CAA Accidental Release Prevention

None of the ingredients are listed or exempt.

#### FDA - Essential Chemical

None of the ingredients are listed or exempt.

#### FDA - Precursor Chemical

None of the ingredients are listed or exempt.

#### SARA (311/312) Hazard Categories

None of the ingredients are listed or exempt.

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

### OSHA Highly Hazardous Chemicals

None of the ingredients are listed or exempt.

### US State Regulations

#### California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed or exempt.

#### California Air Toxics "Hot Spots" (A-I)

The following ingredients are listed or exempt:

*1-Methoxy-2-propanol*

#### California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed or exempt.

#### California Directors List of Hazardous Substances

The following ingredients are listed or exempt:

*1-Methoxy-2-propanol*

*Tetramethyl orthosilicate*

#### Massachusetts "Right To Know" List

The following ingredients are listed or exempt:

*1-Methoxy-2-propanol*

*Tetramethyl orthosilicate*

#### Rhode Island "Right To Know" List

The following ingredients are listed or exempt:

*1-Methoxy-2-propanol*

*Tetramethyl orthosilicate*

#### Minnesota "Right To Know" List

The following ingredients are listed or exempt:

*1-Methoxy-2-propanol*

*Tetramethyl orthosilicate*

#### New Jersey "Right To Know" List

The following ingredients are listed or exempt:

*1-Methoxy-2-propanol*

*Tetramethyl orthosilicate*

#### Pennsylvania "Right To Know" List

The following ingredients are listed or exempt:

*1-Methoxy-2-propanol*

*Tetramethyl orthosilicate*

### Inventories

#### US - TSCA

The following ingredients are listed or exempt:

*[[dodecyloxy)methyl]oxirane*

*1-Methoxy-2-propanol*

*Tetramethyl orthosilicate*

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part A

*trimethoxyvinylsilane*

*Hexan-6-olide*

*Butane-1,4-diol*

*2-Oxepanone, polymer with 1,4-butanediol*

### US - TSCA 12(b) Export Notification

None of the ingredients are listed or exempt.

### 16. Other information

#### Classification abbreviations and acronyms

Eye Irrit. = Eye irritation

Aquatic Acute = Hazardous to the aquatic environment (acute)

Aquatic Chronic = Hazardous to the aquatic environment (chronic)

#### Training advice

Read and follow manufacturer's recommendations. Only trained personnel should use this material.

#### Issued by

Emily Kirk

#### Revision date

9/26/2017

#### Revision

0

#### SDS No.

2149

#### Hazard statements in full

H226 Flammable liquid and vapor.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H336 May cause drowsiness or dizziness.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

## SAFETY DATA SHEET

### Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

#### 1. Identification

##### Product identifier

**Product name** Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

**Product number** UR5641B, EUR5641RP250G, EUR5641K5K, ZE

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

**Application** Resin.

**Uses advised against** No specific uses advised against are identified.

##### Details of the supplier of the safety data sheet

##### Supplier

ELECTROLUBE. A division of HK WENTWORTH LTD  
 HK WENTWORTH-AMERICA  
 PO Box 126257  
 Benbrook, Texas 76126  
 USA  
 info@hkw.us.com  
 +1 888-501-9203

##### Emergency telephone number

**Emergency telephone** +1 202 464 2554 (USA only)  
 +44 1235 239670

#### 2. Hazard(s) identification

##### Classification of the substance or mixture

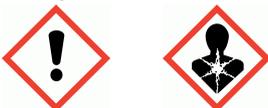
**Physical hazards** Not Classified

**Health hazards** Acute Tox. 4 - H332 Skin Sens. 1 - H317 Repr. 2 - H361 STOT SE 3 - H335

**Environmental hazards** Not Classified

##### Label elements

##### Pictogram



##### Signal word

Warning

##### Hazard statements

H317 May cause an allergic skin reaction.  
 H332 Harmful if inhaled.  
 H335 May cause respiratory irritation.  
 H361 Suspected of damaging fertility or the unborn child.

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

<b>Precautionary statements</b>	P201 Obtain special instructions before use.
	P202 Do not handle until all safety precautions have been read and understood.
	P261 Avoid breathing vapor/ spray.
	P271 Use only outdoors or in a well-ventilated area.
	P272 Contaminated work clothing must not be allowed out of the workplace.
	P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P302+P352 If on skin: Wash with plenty of water.
	P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
	P308+P313 If exposed or concerned: Get medical advice/ attention.
	P312 Call a poison center/ doctor if you feel unwell.
	P321 Specific treatment (see medical advice on this label).
	P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
	P362+P364 Take off contaminated clothing and wash it before reuse.
	P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.	
P501 Dispose of contents/ container in accordance with national regulations.	

<b>Contains</b>	2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol, Hexamethylene diisocyanate, oligomers, Dimethylbis[(1-oxoneodecyl)oxy]stannane
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### Other hazards

This product does not contain any substances classified as PBT or vPvB.

### 3. Composition/information on ingredients

#### Mixtures

<b>2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol</b> CAS number: 164250-92-4	<b>60-100%</b>
<b>Classification</b> Acute Tox. 4 - H332 Skin Sens. 1 - H317 STOT SE 3 - H335	
<b>Hexamethylene diisocyanate, oligomers</b> CAS number: 28182-81-2	<b>10-30%</b>
<b>Classification</b> Acute Tox. 4 - H332 Skin Sens. 1 - H317 STOT SE 3 - H335	
<b>Dimethylbis[(1-oxoneodecyl)oxy]stannane</b> CAS number: 68928-76-7	<b>&lt;1%</b>
<b>Classification</b> Acute Tox. 4 - H302 Repr. 2 - H361 STOT RE 1 - H372 Aquatic Chronic 4 - H413	

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

<b>hexamethylene-di-isocyanate</b>	<b>&lt;1%</b>
CAS number: 822-06-0	
<b>Classification</b>	
Acute Tox. 3 - H331	
Skin Irrit. 2 - H315	
Eye Irrit. 2A - H319	
Resp. Sens. 1 - H334	
Skin Sens. 1 - H317	
STOT SE 3 - H335	

The full text for all hazard statements is displayed in Section 16.

### 4. First-aid measures

#### Description of first aid measures

<b>General information</b>	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
<b>Skin Contact</b>	It is important to remove the substance from the skin immediately. In the event of any sensitization symptoms developing, ensure further exposure is avoided. Remove contamination with soap and water or recognized skin cleansing agent. Get medical attention if symptoms are severe or persist after washing.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

<b>General information</b>	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	A single exposure may cause the following adverse effects: Headache. Exhaustion and weakness.

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

<b>Ingestion</b>	May cause sensitization or allergic reactions in sensitive individuals. Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
<b>Skin contact</b>	May cause skin sensitization or allergic reactions in sensitive individuals. Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	May cause temporary eye irritation.

### Indication of immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	Treat symptomatically. May cause sensitization or allergic reactions in sensitive individuals.
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### 5. Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing media** The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

#### Special hazards arising from the substance or mixture

**Specific hazards** Containers can burst violently or explode when heated, due to excessive pressure build-up. This product is toxic.

**Hazardous combustion products** Thermal decomposition or combustion products may include the following substances: Toxic gases or vapors.

#### Advice for firefighters

**Protective actions during firefighting** Avoid breathing fire gases or vapors. Evacuate area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

**Personal precautions** No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of vapors and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.

#### Environmental precautions

**Environmental precautions** Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

#### Methods and material for containment and cleaning up

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

<b>Methods for cleaning up</b>	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Provide adequate ventilation. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labeled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
<b>Reference to other sections</b>	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

### 7. Handling and storage

#### Precautions for safe handling

<b>Usage precautions</b>	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.
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<b>Advice on general occupational hygiene</b>	Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.
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#### Conditions for safe storage, including any incompatibilities

<b>Storage precautions</b>	Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Utilize retaining walls to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.
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<b>Storage class</b>	Chemical storage.
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#### Specific end uses(s)

<b>Specific end use(s)</b>	The identified uses for this product are detailed in Section 1.
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### 8. Exposure Controls/personal protection

#### Control parameters

#### Occupational exposure limits

#### hexamethylene-di-isocyanate

Long-term exposure limit (8-hour TWA): ACGIH 0.005 ppm 0.034 mg/m<sup>3</sup>

ACGIH = American Conference of Governmental Industrial Hygienists.

#### Exposure controls

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

### Protective equipment



### Appropriate engineering controls

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimize worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimize exposure.

### Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with OSHA 1910.133. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

### Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

### Hygiene measures

Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

### Respiratory protection

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.

### Environmental exposure controls

Keep container tightly sealed when not in use. 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.

## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Appearance	Liquid.
Color	Clear.
Odor	Not known.

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

<b>pH</b>	Not available.
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Bulk density</b>	1.13 kg/l
<b>Solubility(ies)</b>	Not available.
<b>Partition coefficient</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition Temperature</b>	Not available.
<b>Viscosity</b>	4500 mPa s @ 23°C
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidizing properties</b>	Does not meet the criteria for classification as oxidizing.

### 10. Stability and reactivity

<b>Reactivity</b>	See the other subsections of this section for further details.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
<b>Possibility of hazardous reactions</b>	No potentially hazardous reactions known.
<b>Conditions to avoid</b>	There are no known conditions that are likely to result in a hazardous situation.
<b>Materials to avoid</b>	No specific material or group of materials is likely to react with the product to produce a hazardous situation.
<b>Hazardous decomposition products</b>	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapors.

### 11. Toxicological information

#### Information on toxicological effects

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

##### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

##### Acute toxicity - inhalation

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

<b>Notes (inhalation LC<sub>50</sub>)</b>	Acute Tox. 4 - H332 Harmful if inhaled.
<b>ATE inhalation (gases ppm)</b>	15,088.96
<b>ATE inhalation (vapours mg/l)</b>	11.05
<b>ATE inhalation (dusts/mists mg/l)</b>	5.03
<b><u>Skin corrosion/irritation</u></b>	
<b>Animal data</b>	Based on available data the classification criteria are not met.
<b><u>Serious eye damage/irritation</u></b>	
<b>Serious eye damage/irritation</b>	Based on available data the classification criteria are not met.
<b><u>Respiratory sensitization</u></b>	
<b>Respiratory sensitization</b>	Based on available data the classification criteria are not met.
<b><u>Skin sensitization</u></b>	
<b>Skin sensitization</b>	May cause skin sensitization or allergic reactions in sensitive individuals.
<b><u>Germ cell mutagenicity</u></b>	
<b>Genotoxicity - in vitro</b>	Based on available data the classification criteria are not met.
<b><u>Carcinogenicity</u></b>	
<b>Carcinogenicity</b>	Based on available data the classification criteria are not met.
<b>IARC carcinogenicity</b>	None of the ingredients are listed or exempt.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	Based on available data the classification criteria are not met.
<b>Reproductive toxicity - development</b>	Based on available data the classification criteria are not met.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>STOT - single exposure</b>	STOT SE 3 - H335 May cause respiratory irritation.
<b>Target organs</b>	Respiratory system, lungs
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>STOT - repeated exposure</b>	Not classified as a specific target organ toxicant after repeated exposure.
<b><u>Aspiration hazard</u></b>	
<b>Aspiration hazard</b>	Based on available data the classification criteria are not met.
<b><u>General information</u></b>	
<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	A single exposure may cause the following adverse effects: Headache. Exhaustion and weakness.
<b>Ingestion</b>	May cause sensitization or allergic reactions in sensitive individuals. Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
<b>Skin Contact</b>	May cause skin sensitization or allergic reactions in sensitive individuals. Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	May cause temporary eye irritation.

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

<b>Route of entry</b>	Ingestion Inhalation Skin and/or eye contact
<b>Target Organs</b>	Respiratory system, lungs
<b>Medical considerations</b>	Skin disorders and allergies.

### 12. Ecological Information

<b>Ecotoxicity</b>	Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.
<b>Toxicity</b>	Based on available data the classification criteria are not met.
<b><u>Persistence and degradability</u></b>	
<b>Persistence and degradability</b>	The degradability of the product is not known.
<b><u>Bioaccumulative potential</u></b>	
<b>Bio-Accumulative Potential</b>	No data available on bioaccumulation.
<b>Partition coefficient</b>	Not available.
<b><u>Mobility in soil</u></b>	
<b>Mobility</b>	No data available.
<b><u>Other adverse effects</u></b>	
<b>Other adverse effects</b>	None known.

### 13. Disposal considerations

#### Waste treatment methods

<b>General information</b>	The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.
<b>Disposal methods</b>	Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

### 14. Transport information

<b>General</b>	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).
<b><u>UN Number</u></b>	Not applicable.
<b><u>UN proper shipping name</u></b>	Not applicable.
<b><u>Transport hazard class(es)</u></b>	

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

No transport warning sign required.

### Transport labels

No transport warning sign required.

### DOT transport labels

No transport warning sign required.

### Packing group

Not applicable.

### Environmental hazards

#### Environmentally Hazardous Substance

No.

### Special precautions for user

Not applicable.

#### DOT TIH Zone

Not applicable.

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

Not applicable.

## 15. Regulatory information

### US Federal Regulations

#### SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed or exempt.

#### CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

The following ingredients are listed or exempt:

*hexamethylene-di-isocyanate*

Final CERCLA RQ: 100(45.4) pounds (Kilograms)

#### SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

#### SARA 313 Emission Reporting

The following ingredients are listed or exempt:

*hexamethylene-di-isocyanate*

1.0 %

#### CAA Accidental Release Prevention

None of the ingredients are listed or exempt.

#### FDA - Essential Chemical

None of the ingredients are listed or exempt.

#### FDA - Precursor Chemical

None of the ingredients are listed or exempt.

#### SARA (311/312) Hazard Categories

None of the ingredients are listed or exempt.

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

### OSHA Highly Hazardous Chemicals

None of the ingredients are listed or exempt.

### US State Regulations

#### California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed or exempt.

#### California Air Toxics "Hot Spots" (A-I)

The following ingredients are listed or exempt:

*hexamethylene-di-isocyanate*

#### California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed or exempt.

#### California Directors List of Hazardous Substances

The following ingredients are listed or exempt:

*hexamethylene-di-isocyanate*

#### Massachusetts "Right To Know" List

The following ingredients are listed or exempt:

*hexamethylene-di-isocyanate*

#### Rhode Island "Right To Know" List

None of the ingredients are listed or exempt.

#### Minnesota "Right To Know" List

The following ingredients are listed or exempt:

*hexamethylene-di-isocyanate*

#### New Jersey "Right To Know" List

The following ingredients are listed or exempt:

*hexamethylene-di-isocyanate*

#### Pennsylvania "Right To Know" List

None of the ingredients are listed or exempt.

### Inventories

#### US - TSCA

The following ingredients are listed or exempt:

*neodecanoic acid*

*Dimethylbis[(1-oxoneodecyl)oxy]stannane*

*hexamethylene-di-isocyanate*

*Hexamethylene diisocyanate, oligomers*

#### US - TSCA 12(b) Export Notification

None of the ingredients are listed or exempt.

### 16. Other information

#### Classification abbreviations and acronyms

Acute Tox. = Acute toxicity

Skin Sens. = Skin sensitisation

STOT SE = Specific target organ toxicity-single exposure

## Optically Clear Flame Retardant Polyurethane Resin UR5641, Part B

<b>Training advice</b>	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
<b>Issued by</b>	Emily Kirk
<b>Revision date</b>	9/26/2017
<b>Revision</b>	0
<b>SDS No.</b>	2144
<b>Hazard statements in full</b>	H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H331 Toxic if inhaled. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H361 Suspected of damaging fertility or the unborn child. H372 Causes damage to organs through prolonged or repeated exposure. H413 May cause long lasting harmful effects to aquatic life.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.