

KIT - SAFETY DATA SHEET

Product identifier used on the label:

Kit Name **DEVCON® Epoxy Plus™ 25 grey [1:1]**
 Stock No.: 14350

Other means of identification:

Recommended use of the chemical and restrictions on use:

Chemical manufacturer address and telephone number:

Manufacturer Name: ITW Polymers Adhesives, North America
 Address: 30 Endicott Street
 Danvers, MA 01923

| Component list | |
|-----------------------|--------------------|
| Component B | EPOXYPLUS HARDENER |
| Component A | EPOXYPLUS 25 RESIN |
| Kit SDS Revision Date | 08/14/2015 |

Component B - SDS

SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name: **EPOXY PLUS HARDENER**

Other means of identification:

Recommended use of the chemical and restrictions on use:

Chemical manufacturer address and telephone number:

Manufacturer Name: ITW
 Address: 30 Endicott Street
 Danvers, MA 01923
 General Phone Number: (978) 777-1100

Emergency phone number:

Emergency Phone Number: (800) 424-9300
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word: DANGER.

GHS Class: Serious Eye Damage. Category 1.
 Skin corrosion. Category 1.
 Reproductive toxicity. Category 2.
 Skin Sensitization. Category 1.

Hazard Statements: H318 - Causes serious eye damage.
 H314 - Causes severe skin burns and eye damage.
 H361 - Suspected of damaging fertility or the unborn child.
 H317 - May cause an allergic skin reaction.

Precautionary Statements: P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 - Wash hands thoroughly after handling.
 P272 - Contaminated work clothing should not be allowed out of the workplace.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do not induce vomiting.
 P302+P352 - IF ON SKIN: Wash with plenty of water.
 P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P310 - Immediately call a POISON CENTER or doctor/physician.
P321 - Specific treatment (see ... 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.
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Hazards not otherwise classified that have been identified during the classification process:

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye: Corrosive. Will cause eye burns, permanent tissue damage, and blindness.

Skin: Contact causes severe skin irritation and possible burns. may cause permanent skin damage. Allergic reactions are possible.
May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.

Inhalation: May cause severe respiratory system irritation.

Ingestion: Harmful if swallowed. Corrosive to the gastrointestinal tract.

Chronic Health Effects: Prolonged skin contact causes burns.
Repeated or prolonged inhalation may cause toxic effects.

Signs/Symptoms: Depending on solution concentration, material may be corrosive to skin, mucous membranes and eyes. Vapors may cause respiratory irritation.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

| Chemical Name | CAS# | Ingredient Percent | EC Num. |
|---|-------------|---------------------------|----------------|
| Tris-2,4,6-(dimethylaminomethyl)phenol | 90-72-2 | 7.2 - 7.9 by weight | |
| Amorphous silicon dioxide | 67762-90-7 | 5.3 - 5.8 by weight | |
| Butadiene acrylonitrile copolymer | 68683-29-4 | 41.1 - 45.4 by weight | |
| Titanium dioxide | 13463-67-7 | 4.2 - 4.6 by weight | |
| Dimer/TOFA, reaction products with TETA | 68082-29-1 | 2.9 - 3.2 by weight | |
| Aminoethylpiperazine | 140-31-8 | 17.2 - 19 by weight | |
| Nonylphenol | 25154-52-3 | 15 - 16.6 by weight | |
| Bis(dimethylaminomethyl)phenol | 71074-89-0 | 1.2 - 1.4 by weight | |

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.

Skin Contact: Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes.
Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed:

Other First Aid: Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media: Use carbon dioxide (CO₂) or dry chemical when fighting fires involving this material.

Unsuitable extinguishing media: Water or foam may cause frothing.

Special protective equipment and precautions for fire-fighters:

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire Fighting Instructions: Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personnel Precautions: Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.

Environmental precautions:

Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.

Methods and materials for containment and cleaning up:

Spill Cleanup Measures: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Corrosive. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in Section 8.

Reference to other sections:

Other Precautions: Pump or shovel to storage/salvage vessels.

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

Handling: Use with adequate ventilation. Avoid breathing vapor, aerosol or mist. Avoid contact with eyes and skin. Do not reuse containers without proper cleaning or reconditioning.

Hygiene Practices: Wash thoroughly after handling.

Special Handling Procedures: Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.

Conditions for safe storage, including any incompatibilities:

Storage: Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use. Do not store in reactive metal containers. Keep away from acids, oxidizers.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Titanium dioxide :

Guideline ACGIH: TLV-TWA: 10 mg/m³

Appropriate engineering controls:

Engineering Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Individual protection measures:

Eye/Face Protection: Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.

Skin Protection Description: Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing. The breakthrough time of the selected glove(s) must be greater than the intended use period.

Respiratory Protection: A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Other Protective: Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

Notes : Only established PEL and TLV values for the ingredients are listed.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

| | |
|----------------------------------|---------------------------|
| Physical State Appearance: | Liquid. |
| Color: | Thick white.. |
| Odor: | mild phenolic. |
| Boiling Point: | Not determined. |
| Melting Point: | Not determined. |
| Specific Gravity: | 1.0 |
| Solubility: | MODERATE (5-15%) |
| Vapor Density: | >1 (air = 1) |
| Vapor Pressure: | <1 mmHg @77°F |
| Percent Volatile: | 0 |
| Evaporation Rate: | <1 (butyl acetate = 1) |
| pH: | 10.5 @ 5 Percent Solution |
| Molecular Formula: | Mixture |
| Molecular Weight: | Mixture |
| Flash Point: | >230°F (110°C) |
| Flash Point Method: | Tag closed cup. (TCC) |
| Lower Flammable/Explosive Limit: | Not determined. |
| Upper Flammable/Explosive Limit: | Not determined. |
| Auto Ignition Temperature: | Not determined. |
| VOC Content: | 0 g/L |
| <u>9.2. Other information:</u> | |
| Percent Solids by Weight | 100 |

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:

Chemical Stability: Stable under normal temperatures and pressures.

Possibility of hazardous reactions:

Hazardous Polymerization: Not reported.

Conditions To Avoid:

Conditions to Avoid: Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Product may slowly corrode copper, aluminum, zinc and galvanized surfaces.

Incompatible Materials:

Incompatible Materials: Oxidizers, acids, and chlorinated organic compounds. Reactive metals (e.g. sodium, calcium, zinc). Sodium/calcium hypochlorite. Nitrous acid/ oxide, nitrites. Peroxides. Materials reactive with hydroxyl compounds.

SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Tris-2,4,6-(dimethylaminomethyl)phenol :

| | |
|------------|--|
| Eye: | Administration into the eye - Rabbit Standard Draize test: 50 ug/24H [Severe] (RTECS) |
| Skin: | Administration onto the skin - Rat LD50 - Lethal dose, 50 percent kill: 1280 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS) |
| Ingestion: | Oral - Rat LD50 - Lethal dose, 50 percent kill: 1200 mg/kg [Peripheral Nerve and Sensation - Flaccid paralysis without anesthesia (usually neuromuscular blockage) Lungs, Thorax, or Respiration - Dyspnea] Oral - Rat LD50 - Lethal dose, 50 percent kill: 1673 mg/kg [Behavioral - Tremor Gastrointestinal - Ulceration or bleeding from stomach Liver - Other changes] (RTECS) |

Titanium dioxide :

| | |
|------------------|---|
| Chronic Effects: | Normal application procedures for this product pose minimal hazard as to the release of respirable titanium dioxide dust, but grinding or sanding dried films of this product may yield some respirable titanium dioxide. Although IARC has classified titanium dioxide as possible carcinogenic to human (2B), their summary concludes: "No significant exposure to titanium dioxide is thought to occur during the use of products which titanium dioxide is bound to other materials". OSHA does not regulate titanium dioxide as a carcinogen. However, under 29CFR 1910.1200 the SDS must convey the fact that titanium dioxide is a potential carcinogen to rats. |
| Carcinogenicity: | Animal evidence shows that high concentrations of pigment-grade (powdered) and ultrafine titanium dioxide dust caused respiratory tract cancer in rats exposed by inhalation. |

Aminoethylpiperazine :

| | |
|-------|--|
| Eye: | Administration into the eye - Rabbit Standard Draize test: 20 mg/24H [Moderate] (RTECS) |
| Skin: | Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: 880 uL/kg [Details of toxic |

effects not reported other than lethal dose value] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 2140 uL/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Nonylphenol :

Skin: Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: 2140 uL/kg [Details of toxic effects not reported other than lethal dose value]
Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: 2140 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 580 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:

Ecotoxicity: No ecotoxicity data was found for the product.

Environmental Fate: No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: Refer to Bill of Lading

DOT UN Number: Refer to Bill of Lading

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

Tris-2,4,6-(dimethylaminomethyl)phenol :

TSCA Inventory Status: Listed

Canada DSL: Listed

Amorphous silicon dioxide :

TSCA Inventory Status: Listed

Canada DSL: Listed

Butadiene acrylonitrile copolymer :

TSCA Inventory Status: Listed

Canada DSL: Listed

Titanium dioxide :

TSCA Inventory Status: Listed

Canada DSL: Listed

Dimer/TOFA, reaction products with TETA :

TSCA Inventory Status: Listed

Canada DSL: Listed

Aminoethylpiperazine :

TSCA Inventory Status: Listed

Canada DSL: Listed

Nonylphenol :

TSCA Inventory Status: Listed

Canada DSL: Listed

Canadian Regulations: WHMIS Hazard Class(es): D2B; E
All components of this product are on the Canadian Domestic Substances List.

WHMIS Pictograms:



SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 3*
 HMIS Fire Hazard: 1
 HMIS Reactivity: 1
 HMIS Personal Protection: X

| | |
|---------------------|----|
| Health Hazard | 3* |
| Fire Hazard | 1 |
| Reactivity | 1 |
| Personal Protection | X |

* Chronic Health Effects

SDS Revision Date: July 25, 2015
 MSDS Revision Notes: GHS Update
 SDS Format: In accordance to OSHA GHS 1910.1200
 MSDS Author: Actio Corporation
 Disclaimer:

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Component A - SDS**SECTION 1 : IDENTIFICATION**Product identifier used on the label:Product Name: **EPOXY PLUS 25 RESIN**Other means of identification:

Synonyms: None.

Recommended use of the chemical and restrictions on use:

Product Use/Restriction: Not applicable.

Chemical manufacturer address and telephone number:

Manufacturer Name: ITW
 Address: 30 Endicott Street
 Danvers, MA 01923
 General Phone Number: (978) 777-1100

Emergency phone number:

Emergency Phone Number: (800) 424-9300
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300

SECTION 2 : HAZARD(S) IDENTIFICATIONClassification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word: WARNING.

GHS Class: Eye Irritation. Category 2.
 Skin Irritation. Category 2.
 Skin Sensitization. Category 1.
 Specific Target Organ Toxicity - STOT, Single Exposure SE. Category 3.

Hazard Statements: H319 - Causes serious eye irritation.
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H335 - May cause respiratory irritation.

Precautionary Statements: P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 - Wash hands thoroughly after handling.
 P271 - Use only outdoors or in a well-ventilated area.
 P272 - Contaminated work clothing should 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 victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P321 - Specific treatment (see ... on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: 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 Local, State, Federal and Provincial regulations.

Hazards not otherwise classified that have been identified during the classification process:

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye: Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury.

Skin: Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.

Inhalation: Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects.

Ingestion: Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.

Chronic Health Effects: Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction.

Signs/Symptoms: Overexposure can cause headaches, dizziness, nausea, and vomiting.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

| Chemical Name | CAS# | Ingredient Percent | EC Num. |
|--|------------|-----------------------|---------|
| Bisphenol A diglycidyl ether resin | 25068-38-6 | 33.7 - 37.3 by weight | |
| Oxirane,2,2'-[(1-methylethylidene)bis[4,1-phenyleneoxy[1-(butoxymethyl)-2,1-ethanedyl]oxymethylene]]bis- | 71033-08-4 | 32.9 - 36.4 by weight | |
| Dipentaerythritol Pentaacrylate Esters | 60506-81-2 | 3.8 - 4.2 by weight | |
| Titanium dioxide | 13463-67-7 | 2.4 - 2.6 by weight | |
| Amorphous silicon dioxide | 67762-90-7 | 2 - 2.3 by weight | |
| Amorphous Glass Fiber | No Data | 19.8 - 21.9 by weight | |

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.

Skin Contact: Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media: Use carbon dioxide (CO2) or dry chemical when fighting fires involving this material.

Unsuitable extinguishing media: Water or foam may cause frothing.

Unusual Fire Hazards: Sealed containers at elevated temperatures may rupture explosively and spread fire due to polymerization. Heating above 300 deg F in the presence of air may cause slow oxidative decomposition and above 500 deg F may cause polymerization.

Special protective equipment and precautions for fire-fighters:

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire Fighting Instructions: Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personnel Precautions: Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.

Environmental precautions:

Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.

Methods and materials for containment and cleaning up:

Spill Cleanup Measures: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in Section 8.

Reference to other sections:

Other Precautions: Pump or shovel to storage/salvage vessels.

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

Handling: Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.

Hygiene Practices: Wash thoroughly after handling.

Special Handling Procedures: Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.

Conditions for safe storage, including any incompatibilities:

Storage: Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Titanium dioxide :

Guideline ACGIH: TLV-TWA: 10 mg/m³

Appropriate engineering controls:

Engineering Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Individual protection measures:

Eye/Face Protection: Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.

Skin Protection Description: Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.

Respiratory Protection: A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Other Protective: Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

Notes : Only established PEL and TLV values for the ingredients are listed.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State Appearance: Liquid.

Color: Viscous. Gray

Odor: Slight. odor.

Boiling Point: >500°F (260°C)

| | |
|----------------------------------|---------------------------|
| Melting Point: | Not determined. |
| Specific Gravity: | 1.39 |
| Solubility: | negligible. |
| Vapor Density: | >1 (air = 1) |
| Vapor Pressure: | 0.03 mmHg @171°F |
| Percent Volatile: | 0 |
| Evaporation Rate: | <<1 (butyl acetate = 1) |
| pH: | Neutral. |
| Molecular Formula: | Mixture |
| Molecular Weight: | Mixture |
| Flash Point: | >400°F (204.4°C) |
| Flash Point Method: | Pensky-Martens Closed Cup |
| Lower Flammable/Explosive Limit: | Not determined. |
| Upper Flammable/Explosive Limit: | Not determined. |
| Auto Ignition Temperature: | Not determined. |
| VOC Content: | 0 g/L |
| <u>9.2. Other information:</u> | |
| Percent Solids by Weight | 100 |

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:

Chemical Stability: Stable under normal temperatures and pressures.

Possibility of hazardous reactions:

Hazardous Polymerization: Polymerization may occur under certain conditions.

Conditions To Avoid:

Conditions to Avoid: Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Heating resin above 300 F in the presence of air may cause slow oxidative decomposition.

Incompatible Materials:

Incompatible Materials: Strong Lewis or mineral acids, strong oxidizing agents, strong mineral and organic bases (especially primary and secondary aliphatic amines).

SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Bisphenol A diglycidyl ether resin :

Eye: Administration into the eye - Rabbit Standard Draize test: 100 mg [Mild]
Administration into the eye - Rabbit Standard Draize test: 20 mg/24H [Moderate]
Administration into the eye - Rabbit Standard Draize test: 5 mg/24H [Severe] (RTECS)

Skin: Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: >20 mL/kg [Details of toxic effects not reported other than lethal dose value]
Administration onto the skin - Rat LD50 - Lethal dose, 50 percent kill: >1200 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 10700 uL/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 13600 mg/kg [Behavioral - Somnolence (general depressed activity) Lungs, Thorax, or Respiration - Dyspnea Nutritional and Gross Metabolic - Weight loss or decreased weight gain]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 13.6 gm/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 11.4 gm/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 30 gm/kg [Behavioral - Somnolence (general depressed activity) Lungs, Thorax, or Respiration - Dyspnea Nutritional and Gross Metabolic - Weight loss or decreased weight gain]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 30 gm/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: >1 gm/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 11400 mg/kg [Behavioral - Somnolence (general depressed activity) Lungs, Thorax, or Respiration - Dyspnea Nutritional and Gross Metabolic (RTECS)

Titanium dioxide :

Chronic Effects: Normal application procedures for this product pose minimal hazard as to the release of respirable titanium dioxide dust, but grinding or sanding dried films of this product may yield some respirable titanium dioxide. Although IARC has classified titanium dioxide as possible carcinogenic to human (2B), their summary concludes: "No significant exposure to titanium dioxide is thought to occur during the use of products which titanium dioxide is bound to other materials". OSHA does not regulate titanium dioxide as a carcinogen. However, under 29CFR 1910.1200 the SDS must convey the fact that titanium dioxide is a potential carcinogen to rats.

Carcinogenicity: Animal evidence shows that high concentrations of pigment-grade (powdered) and ultrafine titanium dioxide dust caused respiratory tract cancer in rats exposed by inhalation.

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:

Ecotoxicity: No ecotoxicity data was found for the product.
Environmental Fate: No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
RCRA Number: None.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: Non regulated.
DOT UN Number: Not applicable.
DOT Hazard Class: Not applicable.
DOT Packing Group: Not applicable.

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

Bisphenol A diglycidyl ether resin :

TSCA Inventory Status: Listed
Canada DSL: Listed

Oxirane, 2,2'-[(1-methylethylidene)bis[4,1-phenyleneoxy[1-(butoxymethyl)-2,1-ethanediyl]oxymethylene]]bis-

TSCA Inventory Status: Listed


Dipentaerythritol Pentaacrylate Esters :

TSCA Inventory Status: Listed
Canada DSL: Listed

Titanium dioxide :

TSCA Inventory Status: Listed
Canada DSL: Listed

Amorphous silicon dioxide :

TSCA Inventory Status: Listed
Canada DSL: Listed
Canadian Regulations: WHMIS Hazard Class(es): D2B
WHMIS Pictograms: 

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 2*
HMIS Fire Hazard: 1
HMIS Reactivity: 1
HMIS Personal Protection: X

| | |
|----------------------------|-----------|
| Health Hazard | 2* |
| Fire Hazard | 1 |
| Reactivity | 1 |
| Personal Protection | X |

* Chronic Health Effects

SDS Revision Date: July 25, 2015
MSDS Revision Notes: GHS Update
SDS Format: In accordance to OSHA GHS 1910.1200
MSDS Author: Actio Corporation
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