

# SAFETY DATA SHEET

## EPOXY PRIMER 5551 GRAY AP4093E61 - GRAY

Safety Data Sheet according to GB/T 16483-2008 and GB/T 17519-2013

### Section 1. Identification

**Product code** : E61AP5027  
**GHS product identifier** : EPOXY PRIMER 5551 GRAY AP4093E61  
GRAY  
**Product use** : Industrial applications.  
**Material uses** : Paint or paint related material.

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

Sherwin-Williams (Nantong) Co. Ltd  
No.8 Jiang he Road, Economic Development Zone,  
Nantong, Jiangsu Province, 201808, China.  
Tel: 0086-0513-69895000

**e-mail address of person responsible for this SDS** : regulatory.asia@sherwin.com

**Emergency telephone number (with hours of operation)** : 400-6267911 (24/7)

**Hours of operation** : (24/7)

### Section 2. Hazards identification

Classification of the substance or mixture according to GB 13690-2009 and GB 30000-2013

#### **Emergency overview**

Liquid.

Various

Highly flammable liquid and vapor.

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye irritation.

May cause drowsiness or dizziness.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.

Toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

None known. Please refer to the SDS for additional information.

IF exposed or concerned: Get medical advice or attention. IF INHALED: Call a POISON CENTER or doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice or attention. If eye irritation persists: Get medical advice or attention.

**See Section 12 for environmental precautions.**

## Section 2. Hazards identification

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 2  
 SKIN CORROSION/IRRITATION - Category 2  
 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A  
 SKIN SENSITIZATION - Category 1  
 CARCINOGENICITY - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
 AQUATIC HAZARD (ACUTE) - Category 2  
 AQUATIC HAZARD (LONG-TERM) - Category 2

### GHS label elements

**Hazard pictograms** :



**Signal word** :

Danger

**Hazard statements** :

Highly flammable liquid and vapor.  
 Causes skin irritation.  
 May cause an allergic skin reaction.  
 Causes serious eye irritation.  
 May cause drowsiness or dizziness.  
 Suspected of causing cancer.  
 May cause damage to organs through prolonged or repeated exposure.  
 Toxic to aquatic life.  
 Toxic to aquatic life with long lasting effects.

### Precautionary statements

**Prevention** :

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

**Response** :

Collect spillage. IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

**Storage** :

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

**Disposal** :

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

**Physical and chemical hazards** :

Highly flammable liquid and vapor.

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## Section 2. Hazards identification

**Health hazards** : Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of causing cancer.

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

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Inhalation** : Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness

**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.

**Environmental hazards** : Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

**Other hazards which do not result in classification** : None known. Please refer to the SDS for additional information.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

### Hazardous ingredients

| Ingredient name       | %         | CAS number | EC number | Hazard classification        |
|-----------------------|-----------|------------|-----------|------------------------------|
| Epoxy Polymer         | ≥10 - ≤25 | 25068-38-6 | 500-033-5 | H315, H317, H319             |
| n-Butyl Acetate       | ≥10 - ≤25 | 123-86-4   | 204-658-1 | H226, H315, H319, H336, H402 |
| Titanium Dioxide      | ≤10       | 13463-67-7 | 236-675-5 | H316, H351                   |
| Acetone               | ≤10       | 67-64-1    | 200-662-2 | H225, H316, H319, H336, H410 |
| Xylene, mixed isomers | ≤10       | 1330-20-7  | 215-535-7 | H226, H303,                  |

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SHW-A4-AP-GH432-CN

### Section 3. Composition/information on ingredients

|                      |      |           |           |                                                                             |
|----------------------|------|-----------|-----------|-----------------------------------------------------------------------------|
| Zinc Phosphate       | ≤10  | 7779-90-0 | 231-944-3 | H304, H312 +<br>H332, H315,<br>H319, H335,<br>H336, H373,<br>H401           |
| Methyl n-Amyl Ketone | ≤3   | 110-43-0  | 203-767-1 | H400, H410<br>H226, H302,<br>H316                                           |
| Zinc Oxide           | ≤2.1 | 1314-13-2 | 215-222-5 | H316, H320,<br>H400, H410                                                   |
| Ethylbenzene         | ≤3   | 100-41-4  | 202-849-4 | H225, H303,<br>H304, H316,<br>H319, H351,<br>H373, H401                     |
| Molybdenum Trioxide  | ≤0.3 | 1313-27-5 | 215-204-7 | H301, H319,<br>H335, H351,<br>H402, H412                                    |
|                      |      |           |           | <i>See Section 16 for the full text of the H statements declared above.</i> |

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 4. First aid measures

#### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. 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.

## Section 4. First aid measures

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

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Can cause central nervous system (CNS) depression.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

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

- Notes to physician** : 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** : Recommended: alcohol-resistant foam, carbon dioxide, powders.
- Unsuitable extinguishing media** : Do not use water jet.

## Section 5. Fire-fighting measures

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
sulfur oxides  
phosphorus oxides  
halogenated compounds  
metal oxide/oxides
- Advice for firefighters**
- 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

- 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 6. Accidental release measures

**Reference to other sections** : See Section 7 of the safety data sheet (technical measures).  
See Section 8 for information on appropriate personal protective equipment.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name        | Exposure limits                                                                                                                 |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| n-butyl acetate        | <b>GBZ 2.1 (China, 8/2019).</b><br>PC-TWA: 200 mg/m <sup>3</sup> 8 hours.<br>PC-STEL: 300 mg/m <sup>3</sup> 15 minutes.         |
| Titanium Dioxide       | <b>GBZ 2.1 (China, 8/2019).</b><br>PC-TWA: 8 mg/m <sup>3</sup> 8 hours. Form: dust                                              |
| acetone                | <b>GBZ 2.1 (China, 8/2019).</b><br>PC-TWA: 300 mg/m <sup>3</sup> 8 hours.<br>PC-STEL: 450 mg/m <sup>3</sup> 15 minutes.         |
| xylene isomers mixture | <b>GBZ 2.1 (China, 8/2019). [Xylene]</b><br>PC-TWA: 50 mg/m <sup>3</sup> 8 hours.<br>PC-STEL: 100 mg/m <sup>3</sup> 15 minutes. |
| heptan-2-one           | <b>ACGIH TLV (United States, 1/2022).</b><br>TWA: 50 ppm 8 hours.<br>TWA: 233 mg/m <sup>3</sup> 8 hours.                        |

## Section 8. Exposure controls/personal protection

|                     |                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Zinc Oxide          | <b>GBZ 2.1 (China, 8/2019).</b><br>PC-TWA: 3 mg/m <sup>3</sup> 8 hours.<br>PC-STEL: 5 mg/m <sup>3</sup> 15 minutes.<br><b>GBZ 2.1 (China, 8/2019).</b><br>PC-TWA: 100 mg/m <sup>3</sup> 8 hours.<br>PC-STEL: 150 mg/m <sup>3</sup> 15 minutes.<br><b>GBZ 2.1 (China, 8/2019). [Molybdenum and compounds, Molybdenum and insoluble compounds]</b><br>PC-TWA: 6 mg/m <sup>3</sup> , (as Mo) 8 hours. |
| ethylbenzene        |                                                                                                                                                                                                                                                                                                                                                                                                    |
| Molybdenum Trioxide |                                                                                                                                                                                                                                                                                                                                                                                                    |

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Use safety eyewear designed to protect against splash of liquids.
- Skin protection**
- Hand protection**
- Gloves** : Wear suitable gloves tested to EN374.
- : Short Term Exposure less than 10 minutes Continuous use Nitrile gloves.  
Hazardous ingredients Section 3 For more than 4 hours of protection in the presence of Ethyl methyl ketone or Methyl ethyl ketone Acetone or Methyl isobutyl ketone Butyl gloves 0.7mm For more than 4 hours of protection in the presence of Aromatic solvent use polyvinyl alcohol (PVA) gloves.  
Long Term Exposure Spill / For prolonged or repeated handling, use PE / PE Laminate gloves > 8 hours (breakthrough time) .  
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.  
The breakthrough time must be greater than the end use time of the product.  
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.  
Gloves should be replaced regularly and if there is any sign of damage to the glove material.  
Always ensure that gloves are free from defects and that they are stored and used correctly.  
The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.  
Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.



## Section 8. Exposure controls/personal protection

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               | The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Body protection</b>        | : Personnel should wear antistatic clothing made of natural fibers or of high-temperature-resistant synthetic fibers.<br>: 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. Refer to European Standard EN 1149 for further information on material and design requirements and test methods. |
| <b>Other skin protection</b>  | : 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.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Respiratory protection</b> | : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## Section 9. Physical and chemical properties

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

### Appearance

|                                                                |                                                         |
|----------------------------------------------------------------|---------------------------------------------------------|
| <b>Physical state</b>                                          | : Liquid.                                               |
| <b>Color</b>                                                   | : Various                                               |
| <b>Odor</b>                                                    | : Solvent.                                              |
| <b>Odor threshold</b>                                          | : Not available.                                        |
| <b>pH</b>                                                      | : Not applicable.                                       |
| <b>Melting point/freezing point</b>                            | : Not available.                                        |
| <b>Boiling point, initial boiling point, and boiling range</b> | : 55°C (131°F)                                          |
| <b>Flash point</b>                                             | : Closed cup: -14°C (6.8°F) [Pensky-Martens Closed Cup] |
| <b>Evaporation rate</b>                                        | : 5.6 (butyl acetate = 1)                               |
| <b>Lower and upper explosion limit/flammability limit</b>      | : Lower: 1%<br>Upper: 12.8%                             |
| <b>Vapor pressure</b>                                          | : 24 kPa (180 mm Hg)                                    |
| <b>Relative vapor density</b>                                  | : 2 [Air = 1]                                           |
| <b>Relative density</b>                                        | : 1.51                                                  |
| <b>Solubility(ies)</b>                                         | :                                                       |

| Media      | Result      |
|------------|-------------|
| cold water | Not soluble |

|                                               |                                                                  |
|-----------------------------------------------|------------------------------------------------------------------|
| <b>Partition coefficient: n-octanol/water</b> | : Not applicable.                                                |
| <b>Auto-ignition temperature</b>              | : Not available.                                                 |
| <b>Decomposition temperature</b>              | : Not available.                                                 |
| <b>Viscosity</b>                              | : Kinematic (40°C (104°F)): >20.5 mm <sup>2</sup> /s (>20.5 cSt) |
| <b>VOC content</b>                            | : 426 g/L                                                        |
| <b>Aerosol product</b>                        |                                                                  |
| <b>Heat of combustion</b>                     | : 7.992 kJ/g                                                     |

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : 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. Do not allow vapor to accumulate in low or confined areas.  
: Avoid high temperature. Avoid static electricity.

**Incompatible materials** : Reactive or incompatible with the following materials:  
oxidizing materials

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

## Section 11. Toxicological information

### Acute toxicity

| Product/ingredient name | Result               | Species | Dose         | Exposure |
|-------------------------|----------------------|---------|--------------|----------|
| n-butyl acetate         | LD50 Dermal          | Rabbit  | >17600 mg/kg | -        |
|                         | LD50 Oral            | Rat     | 10768 mg/kg  | -        |
| acetone                 | LD50 Oral            | Rat     | 5800 mg/kg   | -        |
| xylene isomers mixture  | LC50 Inhalation Gas. | Rat     | 6700 ppm     | 4 hours  |
|                         | LD50 Oral            | Rat     | 4300 mg/kg   | -        |
| heptan-2-one            | LD50 Oral            | Rat     | 1600 mg/kg   | -        |
| ethylbenzene            | LD50 Dermal          | Rabbit  | >5000 mg/kg  | -        |
|                         | LD50 Oral            | Rat     | 3500 mg/kg   | -        |
| Molybdenum Trioxide     | LD50 Oral            | Rat     | 188 mg/kg    | -        |

### Irritation/Corrosion

| Product/ingredient name | Result                   | Species | Score | Exposure          | Observation |
|-------------------------|--------------------------|---------|-------|-------------------|-------------|
| Epoxy Polymer           | Eyes - Mild irritant     | Rabbit  | -     | 100 mg            | -           |
|                         | Skin - Moderate irritant | Rabbit  | -     | 24 hours 500 UI   | -           |
|                         | Skin - Severe irritant   | Rabbit  | -     | 24 hours 2 mg     | -           |
| n-butyl acetate         | Eyes - Moderate irritant | Rabbit  | -     | 100 mg            | -           |
|                         | Skin - Moderate irritant | Rabbit  | -     | 24 hours 500 mg   | -           |
| Titanium Dioxide        | Skin - Mild irritant     | Human   | -     | 72 hours 300 ug l | -           |
| acetone                 | Eyes - Mild irritant     | Human   | -     | 186300 ppm        | -           |
|                         | Eyes - Mild irritant     | Rabbit  | -     | 10 uL             | -           |
|                         | Eyes - Moderate irritant | Rabbit  | -     | 24 hours 20 mg    | -           |
|                         | Eyes - Severe irritant   | Rabbit  | -     | 20 mg             | -           |

## Section 11. Toxicological information

|                        |                          |        |   |                 |   |
|------------------------|--------------------------|--------|---|-----------------|---|
| xylene isomers mixture | Skin - Mild irritant     | Rabbit | - | 395 mg          | - |
|                        | Skin - Mild irritant     | Rabbit | - | 24 hours 500 mg | - |
|                        | Eyes - Mild irritant     | Rabbit | - | 87 mg           | - |
|                        | Eyes - Severe irritant   | Rabbit | - | 24 hours 5 mg   | - |
| heptan-2-one           | Skin - Mild irritant     | Rat    | - | 8 hours 60 uL   | - |
|                        | Skin - Moderate irritant | Rabbit | - | 100 %           | - |
|                        | Skin - Moderate irritant | Rabbit | - | 24 hours 500 mg | - |
|                        | Skin - Mild irritant     | Rabbit | - | 24 hours 14 mg  | - |
| Zinc Oxide             | Eyes - Mild irritant     | Rabbit | - | 24 hours 500 mg | - |
|                        | Skin - Mild irritant     | Rabbit | - | 24 hours 500 mg | - |
| ethylbenzene           | Eyes - Severe irritant   | Rabbit | - | 500 mg          | - |
|                        | Skin - Mild irritant     | Rabbit | - | 24 hours 15 mg  | - |

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Classification

| Product/ingredient name | IARC |
|-------------------------|------|
| Titanium Dioxide        | 2B   |
| xylene isomers mixture  | 3    |
| ethylbenzene            | 2B   |
| Molybdenum Trioxide     | 2B   |

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

| Name                   | Category   | Route of exposure | Target organs                |
|------------------------|------------|-------------------|------------------------------|
| n-butyl acetate        | Category 3 | -                 | Narcotic effects             |
| acetone                | Category 3 | -                 | Narcotic effects             |
| xylene isomers mixture | Category 3 | -                 | Respiratory tract irritation |
| Molybdenum Trioxide    | Category 3 | -                 | Narcotic effects             |
|                        | Category 3 | -                 | Respiratory tract irritation |

### Specific target organ toxicity (repeated exposure)

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**Section 11. Toxicological information**

| Name                   | Category   | Route of exposure | Target organs |
|------------------------|------------|-------------------|---------------|
| xylene isomers mixture | Category 2 | -                 | -             |
| ethylbenzene           | Category 2 | -                 | -             |

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

**Potential acute health effects**

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

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

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

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

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

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Inhalation** : Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness

**Skin contact** : Adverse symptoms may include the following:  
irritation  
redness

**Ingestion** : No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure****Short term exposure**

**Potential immediate effects** : Not available.

**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** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

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

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## Section 11. Toxicological information

**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               | 27241.02 mg/kg |
| Dermal             | 13083.24 mg/kg |
| Inhalation (gases) | 64915.87 ppm   |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name | Result                                | Species                                 | Exposure |
|-------------------------|---------------------------------------|-----------------------------------------|----------|
| n-butyl acetate         | Acute LC50 32 mg/l Marine water       | Crustaceans - Artemia salina            | 48 hours |
| Titanium Dioxide        | Acute LC50 18000 µg/l Fresh water     | Fish - Pimephales promelas              | 96 hours |
|                         | Acute LC50 >1000000 µg/l Marine water | Fish - Fundulus heteroclitus            | 96 hours |
| acetone                 | Acute EC50 7200000 µg/l Fresh water   | Algae - Selenastrum sp.                 | 96 hours |
|                         | Acute LC50 4.42589 ml/L Marine water  | Crustaceans - Acartia tonsa - Copepodid | 48 hours |
|                         | Acute LC50 7460000 µg/l Fresh water   | Daphnia - Daphnia cucullata             | 48 hours |
|                         | Acute LC50 5600 ppm Fresh water       | Fish - Poecilia reticulata              | 96 hours |
|                         | Chronic NOEC 4.95 mg/l Marine water   | Algae - Ulva pertusa                    | 96 hours |
|                         | Chronic NOEC 0.016 ml/L Fresh water   | Crustaceans - Daphniidae                | 21 days  |
|                         | Chronic NOEC 0.1 ml/L Fresh water     | Daphnia - Daphnia magna - Neonate       | 21 days  |
|                         | Chronic NOEC 5 µg/l Marine water      | Fish - Gasterosteus aculeatus - Larvae  | 42 days  |
| xylene isomers mixture  | Acute LC50 8500 µg/l Marine water     | Crustaceans - Palaemonetes pugio        | 48 hours |
|                         | Acute LC50 13400 µg/l Fresh water     | Fish - Pimephales promelas              | 96 hours |
| Zinc Phosphate          | Acute LC50 90 µg/l Fresh water        | Fish - Oncorhynchus mykiss              | 96 hours |
| heptan-2-one            | Acute LC50 131000 µg/l Fresh water    | Fish - Pimephales promelas              | 96 hours |
| Zinc Oxide              | Acute LC50 1.85 mg/l Marine water     | Algae - Skeletonema costatum            | 96 hours |
|                         | Acute LC50 98 µg/l Fresh water        | Daphnia - Daphnia magna - Neonate       | 48 hours |
| ethylbenzene            | Acute LC50 1.1 ppm Fresh water        | Fish - Oncorhynchus mykiss              | 96 hours |
|                         | Acute EC50 4900 µg/l Marine water     | Algae - Skeletonema costatum            | 72 hours |
|                         | Acute EC50 7700 µg/l Marine water     | Algae - Skeletonema costatum            | 96 hours |
|                         | Acute EC50 6.53 mg/l Marine water     | Crustaceans - Artemia sp. - Nauplii     | 48 hours |
|                         | Acute EC50 2.93 mg/l Fresh water      | Daphnia - Daphnia magna - Neonate       | 48 hours |
| Molybdenum Trioxide     | Acute LC50 4200 µg/l Fresh water      | Fish - Oncorhynchus mykiss              | 96 hours |
|                         | Acute LC50 203.2 mg/l Fresh water     | Daphnia - Daphnia magna - Neonate       | 48 hours |
|                         | Acute LC50 70000 µg/l Fresh water     | Fish - Pimephales promelas              | 96 hours |

## Section 12. Ecological information

### Persistence/degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|------------|------------------|
| n-butyl acetate         | -                 | -          | Readily          |
| acetone                 | -                 | -          | Readily          |
| xylene isomers mixture  | -                 | -          | Readily          |
| heptan-2-one            | -                 | -          | Readily          |
| ethylbenzene            | -                 | -          | Readily          |

### Bioaccumulative potential

| Product/ingredient name | LogP <sub>ow</sub> | BCF         | Potential |
|-------------------------|--------------------|-------------|-----------|
| Epoxy Polymer           | -                  | 31          | low       |
| xylene isomers mixture  | -                  | 8.1 to 25.9 | low       |
| Zinc Phosphate          | -                  | 60960       | high      |
| Zinc Oxide              | -                  | 28960       | high      |

### Mobility in soil

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

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

*Do not allow to enter drains or watercourses.*

## 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.

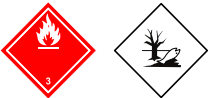
Do not incinerate closed container. Incinerate in a licensed, high-temperature, hazardous-waste incinerator.

## Section 14. Transport information

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## Section 14. Transport information

|                                        | China                                                                                  | ADR                                                                                    | IMDG                                                                                    | IATA                                                                                     |
|----------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| UN number                              | UN1263                                                                                 | UN1263                                                                                 | UN1263                                                                                  | UN1263                                                                                   |
| UN proper shipping name                | PAINT. Marine pollutant (Epoxy Polymer, Zinc Phosphate)                                | PAINT                                                                                  | PAINT. Marine pollutant (Epoxy Polymer, Zinc Phosphate)                                 | PAINT                                                                                    |
| Transport Hazard Class(es)/Label(s)    | 3<br> | 3<br> | 3<br> | 3<br> |
| Packing group                          | II                                                                                     | II                                                                                     | II                                                                                      | II                                                                                       |
| Environmental hazards/Marine pollutant | Yes.                                                                                   | Yes.                                                                                   | Yes.                                                                                    | Yes. The environmentally hazardous substance mark is not required.                       |

**Additional information**

- China** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Emergency schedules** F-E, S-E
- ADR** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Special provisions** 640 (C)  
**Tunnel code** D/E
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Emergency schedules** F-E, S-E
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

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

**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.

**Incompatible materials** : Reactive or incompatible with the following materials:  
oxidizing materials

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

## Section 14. Transport information

*Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.*

## Section 15. Regulatory information

**National inventory** : **Australia inventory (AIIIC)**: Not determined.  
**Canada inventory**: Not determined.  
**China inventory (IECSC)**: Not determined.  
**Japan inventory (CSCL)**: Not determined.  
**Japan inventory (ISHL)**: Not determined.  
**Korea inventory**: Not determined.  
**Mexico inventory**: Not determined.  
**New Zealand Inventory of Chemicals (NZIoC)**: Not determined.  
**Philippines inventory (PICCS)**: Not determined.  
**Russian Federation inventory**: Not determined.  
**Thailand inventory**: Not determined.  
**Turkey inventory**: Not determined.  
**Taiwan Chemical Substances Inventory (TCSI)**: Not determined.  
**United States inventory (TSCA 8b)**: Not determined.  
**Vietnam inventory**: Not determined.

### List of Goods banned for Importing

None of the components are listed.

### Drug Precursors Requiring an Import/Export License

None of the components are listed.

### Inventory of Hazardous Chemicals

| Ingredient name        | CAS number | Status | Reference number |
|------------------------|------------|--------|------------------|
| n-Butyl acetate        | 123-86-4   | Listed | 2657             |
| Acetone                | 67-64-1    | Listed | 137              |
| Xylene isomers mixture | 1330-20-7  | Listed | 358              |
| 2-Heptanone            | 110-43-0   | Listed | 829              |
| Ethyl benzene          | 100-41-4   | Listed | 2566             |

### List of Explosive Precursors

None of the components are listed.

### List of Goods banned for Exporting

None of the components are listed.

### List of Toxic Chemicals Severely Restricted for Importing & Exporting by China

None of the components are listed.

### Catalogue and classification of drug precursor chemicals

| Category   | Ingredient name | %    | Status |
|------------|-----------------|------|--------|
| Category 3 | acetone         | ≤10  | Listed |
|            | toluene         | ≤0.1 | Listed |

### Inventory of Highly Toxic Articles



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## Section 15. Regulatory information

None of the components are listed.

### Catalogue of Hazardous Chemicals of Priority Management

Listed

Listed

Listed

### China MEE12 Registration number

Not applicable.

## Section 16. Other information

### History

Date of printing : 2022/11/20.

Date of issue/Date of revision : 2022/11/20.

Date of previous issue : 2022/08/20.

Version : 2

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)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

### Procedure used to derive the classification

| Classification                                                                   | Justification         |
|----------------------------------------------------------------------------------|-----------------------|
| FLAMMABLE LIQUIDS - Category 2                                                   | On basis of test data |
| SKIN CORROSION/IRRITATION - Category 2                                           | Calculation method    |
| SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A                                 | Calculation method    |
| SKIN SENSITIZATION - Category 1                                                  | Calculation method    |
| CARCINOGENICITY - Category 2                                                     | Calculation method    |
| SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 | Calculation method    |
| SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2                  | Calculation method    |
| AQUATIC HAZARD (ACUTE) - Category 2                                              | Calculation method    |
| AQUATIC HAZARD (LONG-TERM) - Category 2                                          | Calculation method    |

### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Full text of classifications : FLAMMABLE LIQUIDS - Category 2  
[CLP/GHS] SKIN CORROSION/IRRITATION - Category 2  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A  
SKIN SENSITIZATION - Category 1  
CARCINOGENICITY - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
AQUATIC HAZARD (ACUTE) - Category 2  
AQUATIC HAZARD (LONG-TERM) - Category 2

## Section 16. Other information

- Full text of abbreviated H statements** :
- H225 - Highly flammable liquid and vapor.
  - H315 - Causes skin irritation.
  - H317 - May cause an allergic skin reaction.
  - H319 - Causes serious eye irritation.
  - H336 - May cause drowsiness or dizziness.
  - H351 - Suspected of causing cancer.
  - H373 - May cause damage to organs through prolonged or repeated exposure.
  - H401 - Toxic to aquatic life.
  - H411 - Toxic to aquatic life with long lasting effects.
- Precautionary statements** :
- P201 - Obtain special instructions before use.
  - P202 - Do not handle until all safety precautions have been read and understood.
  - P280 - Wear protective gloves, protective clothing and eye or face protection.
  - P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P241 - Use explosion-proof electrical, ventilating or lighting equipment.
  - P242 - Use non-sparking tools.
  - P243 - Take action to prevent static discharges.
  - P271 - Use only outdoors or in a well-ventilated area.
  - P273 - Avoid release to the environment.
  - P260 - Do not breathe vapor.
  - P264 - Wash thoroughly after handling.
  - P272 - Contaminated work clothing should not be allowed out of the workplace.
  - P391 - Collect spillage.
  - P308 + P313 - IF exposed or concerned: Get medical advice or attention.
  - P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
  - P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
  - P302 + P352 - IF ON SKIN: Wash with plenty of water.
  - P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
  - 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 or attention.
  - P405 - Store locked up.
  - P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
  - P403 + P235 - Keep cool.
  - P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Indicates information that has changed from previously issued version.

### Notice to reader

*It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS,*

## **Section 16. Other information**

*the manufacturer cannot be responsible for SDSs obtained from any other source.*

## **Section 16. Other information**