

SAFETY DATA SHEET

B58V620

Section 1. Identification

Product name : MACROPOXY® 646-100 Fast Cure Epoxy (Part B)
Hardener

Product code : B58V620

Other means of identification : Not available.

Product type : Liquid.

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

Paint or paint related material.

Manufacturer : THE SHERWIN-WILLIAMS COMPANY
101 W. Prospect Avenue
Cleveland, OH 44115

Emergency telephone number of the company : US / Canada: (800) 424-9300
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Product Information Telephone Number : US / Canada: (800) 524-5979
Mexico: Not Available

Transportation Emergency Telephone Number : US / Canada: (800) 424-9300
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 57.6% (oral), 61.8% (dermal), 57.6% (inhalation)

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 cancer.
Causes damage to organs through prolonged or repeated exposure.

Section 2. Hazards identification

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. Keep container tightly closed. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response

: IF exposed or concerned: Get medical advice or attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. 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 cool.

Disposal

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

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY. Contains Formaldehyde - a potential cancer hazard. This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS. Adequate ventilation required when sanding or abrading the dried film. If Adequate ventilation cannot be provided wear an approved particulate respirator (NIOSH approved). Follow respirator manufacturer's directions for respirator use. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Abrading or sanding of the dry film may release Crystalline Silica which has been shown to cause lung damage and cancer under long term exposure. Please refer to the SDS for additional information. Keep out of reach of children. Do not transfer contents to other containers for storage.

Hazards not otherwise classified

: None known.

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Other means of identification

: Not available.

CAS number/other identifiers

| Ingredient name | % by weight | CAS number |
|---------------------------------------|-------------|------------|
| Crystalline Silica, respirable powder | ≥50 - ≤75 | 14808-60-7 |
| Epoxy Polymer | ≥10 - ≤25 | 1675-54-3 |
| Acetone | ≤9.6 | 67-64-1 |
| Methyl Isobutyl Ketone | ≤5 | 108-10-1 |
| Xylene, mixed isomers | ≤3 | 1330-20-7 |
| Ethylbenzene | <1 | 100-41-4 |
| Formaldehyde (max.) | <0.1 | 50-00-0 |

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Section 3. Composition/information on ingredients

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

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : 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. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

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

Over-exposure signs/symptoms

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

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

Section 4. First aid measures

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. 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.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- Remark** : Flammable liquid.

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).

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Contains a formaldehyde-based resin which, under certain conditions of use, may release formaldehyde. 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. 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 (OSHA United States)

Section 8. Exposure controls/personal protection

| Ingredient name | CAS # | Exposure limits |
|---------------------------------------|----------------------|--|
| Crystalline Silica, respirable powder | 14808-60-7 | OSHA PEL Z3 (United States, 6/2016). TWA: 250 mppcf / (%SiO ₂ +5) 8 hours. Form: Respirable TWA: 10 mg/m ³ / (%SiO ₂ +2) 8 hours. Form: Respirable OSHA PEL (United States, 5/2018). [Silica, crystalline] TWA: 50 µg/m ³ 8 hours. Form: Respirable dust ACGIH TLV (United States, 1/2023). [Silica, crystalline] TWA: 0.025 mg/m ³ 8 hours. Form: Respirable fraction NIOSH REL (United States, 10/2020). [SILICA, CRYSTALLINE (AS RESPIRABLE DUST)] TWA: 0.05 mg/m ³ 10 hours. Form: respirable dust |
| Epoxy Polymer Acetone | 1675-54-3 67-64-1 | None. ACGIH TLV (United States, 1/2023). TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. NIOSH REL (United States, 10/2020). TWA: 250 ppm 10 hours. TWA: 590 mg/m ³ 10 hours. OSHA PEL (United States, 5/2018). TWA: 1000 ppm 8 hours. TWA: 2400 mg/m ³ 8 hours. |
| Methyl Isobutyl Ketone | 108-10-1 | ACGIH TLV (United States, 1/2023). TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. NIOSH REL (United States, 10/2020). TWA: 50 ppm 10 hours. TWA: 205 mg/m ³ 10 hours. STEL: 75 ppm 15 minutes. STEL: 300 mg/m ³ 15 minutes. OSHA PEL (United States, 5/2018). TWA: 100 ppm 8 hours. TWA: 410 mg/m ³ 8 hours. |
| Xylene, mixed isomers | 1330-20-7 | OSHA PEL (United States, 5/2018). [Xylenes (o-, m-, p-isomers)] TWA: 100 ppm 8 hours. TWA: 435 mg/m ³ 8 hours. ACGIH TLV (United States, 1/2023). [p-xylene and mixtures containing p-xylene] Ototoxicant. TWA: 20 ppm 8 hours. |
| Ethylbenzene | 100-41-4 | ACGIH TLV (United States, 1/2023). Ototoxicant. TWA: 20 ppm 8 hours. NIOSH REL (United States, 10/2020). TWA: 100 ppm 10 hours. TWA: 435 mg/m ³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m ³ 15 minutes. |

Section 8. Exposure controls/personal protection

| | | |
|---------------------|---------|---|
| Formaldehyde (max.) | 50-00-0 | <p>OSHA PEL (United States, 5/2018). TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.</p> <p>OSHA PEL Z2 (United States, 2/2013). TWA: 0.75 ppm 8 hours. STEL: 2 ppm 15 minutes.</p> <p>NIOSH REL (United States, 10/2020). TWA: 0.016 ppm 10 hours. CEIL: 0.1 ppm 15 minutes.</p> <p>OSHA PEL (United States, 5/2018). TWA: 0.75 ppm 8 hours. STEL: 2 ppm 15 minutes.</p> <p>ACGIH TLV (United States, 1/2023). Skin sensitizer. Inhalation sensitizer. STEL: 0.3 ppm 15 minutes. TWA: 0.1 ppm 8 hours.</p> |
|---------------------|---------|---|

Occupational exposure limits (Canada)

| Ingredient name | CAS # | Exposure limits |
|-----------------|------------|--|
| Quartz | 14808-60-7 | <p>CA British Columbia Provincial (Canada, 6/2022). [Silica, Crystalline - alpha quartz and Cristobalite Respirable] TWA: 0.025 mg/m³ 8 hours. Form: Respirable</p> <p>CA Quebec Provincial (Canada, 6/2022). [Silica Crystalline -Quartz] TWA EV: 0.1 mg/m³ 8 hours. Form: Respirable dust.</p> <p>CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 0.025 mg/m³ 8 hours. Form: Respirable particulate</p> <p>CA Ontario Provincial (Canada, 6/2019). [Silica, Crystalline (Quartz/Tripoli)] TWA: 0.1 mg/m³ 8 hours. Form: Respirable particulate matter.</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). TWA: 0.05 mg/m³ 8 hours. Form: respirable fraction</p> |
| acetone | 67-64-1 | <p>CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes.</p> <p>CA British Columbia Provincial (Canada, 6/2022). TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes.</p> <p>CA Ontario Provincial (Canada, 6/2019). TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes.</p> <p>CA Quebec Provincial (Canada, 6/2022). TWA EV: 250 ppm 8 hours. STEV: 500 ppm 15 minutes.</p> <p>CA Saskatchewan Provincial (Canada, 7/2013).</p> |

Section 8. Exposure controls/personal protection

| | | |
|------------------------|-----------|--|
| Methyl isobutyl ketone | 108-10-1 | <p>STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours. CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 205 mg/m³ 8 hours. 8 hrs OEL: 50 ppm 8 hours. 15 min OEL: 75 ppm 15 minutes. 15 min OEL: 307 mg/m³ 15 minutes. CA British Columbia Provincial (Canada, 6/2022). TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. CA Ontario Provincial (Canada, 6/2019). TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. CA Quebec Provincial (Canada, 6/2022). TWA: 20 ppm 8 hours. STEV: 75 ppm 15 minutes. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 75 ppm 15 minutes. TWA: 50 ppm 8 hours.</p> |
| Xylene | 1330-20-7 | <p>CA Alberta Provincial (Canada, 6/2018). [Dimethylbenzene (o,m & p isomers)] 8 hrs OEL: 100 ppm 8 hours. 15 min OEL: 651 mg/m³ 15 minutes. 15 min OEL: 150 ppm 15 minutes. 8 hrs OEL: 434 mg/m³ 8 hours. CA British Columbia Provincial (Canada, 6/2022). [Xylene (o, m & p isomers)] TWA: 100 ppm 8 hours. STEL: 150 ppm 15 minutes. CA Quebec Provincial (Canada, 6/2022). [Xylene (o-,m-,p- isomers)] TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEV: 150 ppm 15 minutes. STEV: 651 mg/m³ 15 minutes. CA Ontario Provincial (Canada, 6/2019). [Xylene (o-, m-, p-isomers)] STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). [Xylene (o, m-, p-isomers)] STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.</p> |
| Ethylbenzene | 100-41-4 | <p>CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 100 ppm 8 hours. 8 hrs OEL: 434 mg/m³ 8 hours. 15 min OEL: 543 mg/m³ 15 minutes. 15 min OEL: 125 ppm 15 minutes. CA British Columbia Provincial (Canada, 6/2022). TWA: 20 ppm 8 hours. CA Ontario Provincial (Canada, 6/2019). TWA: 20 ppm 8 hours. CA Quebec Provincial (Canada, 6/2022). TWA: 20 ppm 8 hours.</p> |

Section 8. Exposure controls/personal protection

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 125 ppm 15 minutes.
TWA: 100 ppm 8 hours.

Occupational exposure limits (Mexico)

| | CAS # | Exposure limits |
|---------------------------------------|------------|--|
| Crystalline Silica, respirable powder | 14808-60-7 | NOM-010-STPS-2014 (Mexico, 4/2016). TWA: 0.025 mg/m ³ 8 hours. Form: Respirable fraction |
| Acetone | 67-64-1 | NOM-010-STPS-2014 (Mexico, 4/2016). TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. |
| Methyl Isobutyl Ketone | 108-10-1 | NOM-010-STPS-2014 (Mexico, 4/2016). TWA: 50 ppm 8 hours. STEL: 75 ppm 15 minutes. |
| Xylene, mixed isomers | 1330-20-7 | NOM-010-STPS-2014 (Mexico, 4/2016). [Xylenes (mixed)] STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours. |

Biological exposure indices (United States)

| Ingredient name | Exposure indices |
|------------------------|--|
| Acetone | ACGIH BEI (United States, 1/2023) BEI: 25 mg/l, acetone [in urine]. Sampling time: end of shift. |
| Methyl Isobutyl Ketone | ACGIH BEI (United States, 1/2023) BEI: 1 mg/l, methyl isobutyl ketone [in urine]. Sampling time: end of shift. |
| Xylene, mixed isomers | ACGIH BEI (United States, 1/2023) [xylenes (technical or commercial grade)] BEI: 1.5 g/g creatinine, methylhippuric acids [in urine]. Sampling time: end of shift. |
| Ethylbenzene | ACGIH BEI (United States, 1/2023) BEI: 0.15 g/g creatinine, sum of mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: end of shift. |

Biological exposure indices (Canada)

No exposure indices known.

Biological exposure indices (Mexico)

| Ingredient name | Exposure indices |
|-----------------|---|
| Acetone | Official Mexican STANDARD NOM-047-SSA1-2011, Environmental Health-Biological exposure indices for personnel occupationally exposed to chemical substances. (Mexico, 6/2012) BEI: 50 mg/L [non-specific. The determinant is nonspecific, since it can be found after exposure to other chemicals.], acetone [in urine]. Sampling time: at the end of the work shift. |

Section 8. Exposure controls/personal protection

Methyl Isobutyl Ketone

Official Mexican STANDARD NOM-047-SSA1-2011, Environmental Health-Biological exposure indices for personnel occupationally exposed to chemical substances. (Mexico, 6/2012)

BEI: 2 mg/L, MIBK [in urine]. Sampling time: at the end of the work shift.

Xylene, mixed isomers

Official Mexican STANDARD NOM-047-SSA1-2011, Environmental Health-Biological exposure indices for personnel occupationally exposed to chemical substances. (Mexico, 6/2012) [xylenes (technical or commercial grade)]

BEI: 1.5 g/g creatinine, methyl hippuric acids [in urine]. Sampling time: at the end of the work shift.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

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

Appearance

Physical state : Liquid.

Color : Clear.

Odor : Not available.

Odor threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point, initial boiling point, and boiling range : 55°C (131°F)

Flash point : Closed cup: 7°C (44.6°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability : Flammable liquid.

Lower and upper explosion limit/flammability limit : Lower: 1%
Upper: 12.8%

Vapor pressure : 24 kPa (180 mm Hg)

Relative vapor density : 2 [Air = 1]

Relative density : 1.59

Solubility(ies) :

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

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): >20.5 mm²/s (>20.5 cSt)

Molecular weight : Not applicable.

Heat of combustion : 3.854 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.

Section 10. Stability and reactivity

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.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|----------------------|---------|-------------|----------|
| Epoxy Polymer | LD50 Dermal | Rabbit | 20 g/kg | - |
| Acetone | LD50 Oral | Rat | 5800 mg/kg | - |
| Methyl Isobutyl Ketone | LD50 Oral | Rat | 2080 mg/kg | - |
| Xylene, mixed isomers | LC50 Inhalation Gas. | Rat | 6700 ppm | 4 hours |
| | LD50 Oral | Rat | 4300 mg/kg | - |
| Ethylbenzene | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 3500 mg/kg | - |
| Formaldehyde (max.) | LC50 Inhalation Gas. | Rat | 250 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 270 mg/kg | - |
| | LD50 Oral | Rat | 100 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|---------|-------|-----------------|-------------|
| Epoxy Polymer | Eyes - Severe irritant | Rabbit | - | 24 hours 2 mg | - |
| Acetone | Skin - Mild irritant | Rabbit | - | 500 mg | - |
| | Eyes - Mild irritant | Human | - | 186300 ppm | - |
| | Eyes - Mild irritant | Rabbit | - | 10 uL | - |
| | Eyes - Moderate irritant | Rabbit | - | 24 hours 20 mg | - |
| Methyl Isobutyl Ketone | Eyes - Severe irritant | Rabbit | - | 20 mg | - |
| | Skin - Mild irritant | Rabbit | - | 395 mg | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 uL | - |
| | Eyes - Severe irritant | Rabbit | - | 40 mg | - |
| Xylene, mixed isomers | Skin - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Eyes - Mild irritant | Rabbit | - | 87 mg | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 5 mg | - |
| | Skin - Mild irritant | Rat | - | 8 hours 60 uL | - |
| | Skin - Moderate irritant | Rabbit | - | 100 % | - |
| Ethylbenzene | Skin - Moderate irritant | Rabbit | - | 24 hours 500 mg | - |
| | Eyes - Severe irritant | Rabbit | - | 500 mg | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 15 mg | - |
| Formaldehyde (max.) | Eyes - Mild irritant | Human | - | 6 minutes 1 ppm | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 750 ug | - |
| | Eyes - Severe irritant | Rabbit | - | 750 ug | - |
| | Skin - Mild irritant | Human | - | 72 hours 150 | - |

Section 11. Toxicological information

| | | | | | |
|--|--------------------------|--------|---|-------------|---|
| | Skin - Mild irritant | Rabbit | - | ug l | - |
| | Skin - Moderate irritant | Rabbit | - | 540 mg | - |
| | | | | 24 hours 50 | - |
| | | | | mg | |
| | Skin - Severe irritant | Human | - | 0.01 % | - |
| | Skin - Severe irritant | Rabbit | - | 0.8 % | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 2 | - |
| | | | | mg | |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|---------------------------------------|------|------|---------------------------------|
| Crystalline Silica, respirable powder | + | 1 | Known to be a human carcinogen. |
| Epoxy Polymer | - | 3 | - |
| Methyl Isobutyl Ketone | - | 2B | - |
| Xylene, mixed isomers | - | 3 | - |
| Ethylbenzene | - | 2B | - |
| Formaldehyde (max.) | + | 1 | Known to be a human carcinogen. |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|------------------------|--------------------------|-------------------|--|
| Acetone | Category 3 | - | Respiratory tract irritation |
| Methyl Isobutyl Ketone | Category 3 Category 3 | - | Narcotic effects Respiratory tract irritation |
| Xylene, mixed isomers | Category 3 Category 3 | - | Narcotic effects Respiratory tract irritation |
| Ethylbenzene | Category 3 | - | Narcotic effects |
| Formaldehyde (max.) | Category 3 Category 3 | - | Narcotic effects Respiratory tract irritation |
| | Category 3 | | Narcotic effects |

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

| Name | Category | Route of exposure | Target organs |
|---------------------------------------|------------|-------------------|---------------|
| Crystalline Silica, respirable powder | Category 1 | inhalation | - |
| Methyl Isobutyl Ketone | Category 2 | - | - |
| Xylene, mixed isomers | Category 2 | - | - |
| Ethylbenzene | Category 2 | - | - |
| Formaldehyde (max.) | Category 2 | - | - |

Aspiration hazard

| Name | Result |
|-----------------------|--------------------------------|
| Xylene, mixed isomers | ASPIRATION HAZARD - Category 1 |
| Ethylbenzene | ASPIRATION HAZARD - Category 1 |

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes skin irritation. May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

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

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

Short term exposure

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

Long term exposure

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

Potential chronic health effects

Not available.

General : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|---------------------|----------------|
| Oral | 17147.26 mg/kg |
| Dermal | 51933.17 mg/kg |
| Inhalation (vapors) | 109.61 mg/l |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|--------------------------------------|--|----------|
| Acetone | Acute EC50 7200000 µg/l Fresh water | Algae - <i>Selenastrum sp.</i> | 96 hours |
| | Acute EC50 23.5 mg/l Fresh water | Daphnia - <i>Daphnia magna</i> | 48 hours |
| | Acute LC50 4.42589 ml/L Marine water | Crustaceans - <i>Acartia tonsa</i> - Copepodid | 48 hours |
| | Acute LC50 5600 ppm Fresh water | Fish - <i>Poecilia reticulata</i> | 96 hours |
| | Chronic NOEC 4.95 mg/l Marine water | Algae - <i>Ulva pertusa</i> | 96 hours |
| | Chronic NOEC 0.016 ml/L Fresh water | Crustaceans - <i>Daphniidae</i> | 21 days |
| | Chronic NOEC 0.1 ml/L Fresh water | Daphnia - <i>Daphnia magna</i> - Neonate | 21 days |
| | Chronic NOEC 5 µg/l Marine water | Fish - <i>Gasterosteus aculeatus</i> - Larvae | 42 days |
| | Methyl Isobutyl Ketone | Fish - <i>Pimephales promelas</i> | 96 hours |
| | | Daphnia - <i>Daphnia magna</i> | 21 days |
| | | Fish - <i>Pimephales promelas</i> - Embryo | 33 days |
| Xylene, mixed isomers | Acute LC50 8500 µg/l Marine water | Crustaceans - <i>Palaemonetes pugio</i> | 48 hours |
| Ethylbenzene | Acute LC50 13400 µg/l Fresh water | Fish - <i>Pimephales promelas</i> | 96 hours |
| | Acute EC50 4900 µg/l Marine water | Algae - <i>Skeletonema costatum</i> | 72 hours |
| | Acute EC50 7700 µg/l Marine water | Algae - <i>Skeletonema costatum</i> | 96 hours |
| | Acute EC50 6.53 mg/l Marine water | Crustaceans - <i>Artemia sp.</i> - Nauplii | 48 hours |
| | Acute EC50 2.93 mg/l Fresh water | Daphnia - <i>Daphnia magna</i> - Neonate | 48 hours |
| Formaldehyde (max.) | Acute LC50 4200 µg/l Fresh water | Fish - <i>Oncorhynchus mykiss</i> | 96 hours |
| | Acute EC50 3.48 mg/l Fresh water | Algae - <i>Desmodesmus subspicatus</i> | 72 hours |
| | Acute EC50 0.442 mg/l Marine water | Algae - <i>Ulva pertusa</i> | 96 hours |
| | Acute EC50 3.26 mg/l Fresh water | Daphnia - <i>Daphnia magna</i> - Embryo | 48 hours |
| | Acute LC50 11.41 mg/l Fresh water | Crustaceans - <i>Ceriodaphnia dubia</i> | 48 hours |
| | Acute LC50 1.41 ppm Fresh water | Fish - <i>Oncorhynchus mykiss</i> | 96 hours |
| | Chronic NOEC 1000 µg/l Marine water | Algae - <i>Phyllospora comosa</i> - Embryo | 96 hours |
| | Chronic NOEC 3000 ppm Fresh water | Crustaceans - <i>Astacus astacus</i> - Egg | 21 days |
| | Chronic NOEC 1.56 mg/l Fresh water | Fish - <i>Oreochromis niloticus</i> - Fingerling | 12 weeks |
| | | | |

Section 12. Ecological information

Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|------------|------------------|
| Acetone | - | - | Readily |
| Methyl Isobutyl Ketone | - | - | Readily |
| Xylene, mixed isomers | - | - | Readily |
| Ethylbenzene | - | - | Readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-------------|-----------|
| Xylene, mixed isomers | - | 8.1 to 25.9 | Low |

Mobility in soil






Soil/water partition coefficient (K_{oc}) : Not available.

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

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | IATA | IMDG |
|----------------------------|--|--|--|--|--|
| UN number | UN1263 | UN1263 | UN1263 | UN1263 | UN1263 |
| UN proper shipping name | PAINT | PAINT | PAINT | PAINT | PAINT |
| Transport hazard class(es) | 3  | 3  | 3  | 3  | 3  |
| Packing group | II | II | II | II | II |
| Environmental hazards | No. | No. | No. | No. | No. |
| | | | | | |

Section 14. Transport information

| | | | | | |
|--------------------------------------|--|--|--|----------|---|
| <p>Additional information</p> | <p>-</p> <p><u>ERG No.</u></p> <p>128</p> | <p>Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).</p> <p><u>ERG No.</u></p> <p>128</p> | <p>-</p> <p><u>ERG No.</u></p> <p>128</p> | <p>-</p> | <p><u>Emergency schedules</u> F-E, S-E</p> |
|--------------------------------------|--|--|--|----------|---|

Special precautions for user : 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.

Transport in bulk according to IMO instruments : Not available.

Proper shipping name : Not available.

Section 15. Regulatory information

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet, where applicable.

California Prop. 65

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

International regulations

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

International lists

- Australia inventory (AIIC):** Not determined.
- China inventory (IECSC):** Not determined.
- Japan inventory (CSCL):** Not determined.
- Japan inventory (ISHL):** Not determined.
- Korea inventory (KECI):** Not determined.
- New Zealand Inventory of Chemicals (NZIoC):** Not determined.
- Philippines inventory (PICCS):** Not determined.
- Taiwan Chemical Substances Inventory (TCSI):** Not determined.
- Thailand inventory:** Not determined.
- Turkey inventory:** Not determined.
- Vietnam inventory:** Not determined.

Section 16. Other information

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

| | | |
|------------------|---|---|
| Health | * | 3 |
| Flammability | | 3 |
| Physical hazards | | 0 |
| | | |

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

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

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 1A | Calculation method |
| SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1 | Calculation method |

History

Date of printing : 4/18/2024

Date of issue/Date of revision : 4/18/2024

Date of previous issue : 1/22/2024

Version : 21

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

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

| | | | |
|---|---|---------------------|-------|
| Date of issue/Date of revision : 4/18/2024 | Date of previous issue : 1/22/2024 | Version : 21 | 18/19 |
| B58V620 | MACROPOXY® 646-100 Fast Cure Epoxy (Part B) Hardener | SHW-85-NA-GHS-US | |

Section 16. Other information

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