

SAFETY DATA SHEET



Date of issue/Date of revision 22 December 2019

Version 16

Section 1. Identification

Product name : 02GN089 BASE COMPONENT
Product code : 02GN089 BASE COMPONENT
Other means of identification : Not available.
Product type : Liquid.

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

Product use : Industrial applications.
Use of the substance/mixture : Coating.
Uses advised against : Not applicable.

Manufacturer : PPG Aerospace PRC-DeSoto
12780 San Fernando Road
Sylmar, CA 91342
Phone: 818 362 6711

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)

Section 2. Hazards identification

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

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 4
SKIN CORROSION - Category 1C
SERIOUS EYE DAMAGE - Category 1
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 1
CARCINOGENICITY - Category 1A
TOXIC TO REPRODUCTION (Fertility) - Category 1B
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys, respiratory tract) - Category 1

Section 2. Hazards identification

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 14.4% (Dermal), 16.1% (Inhalation)

This product contains TiO₂ which has been classified as a GHS Carcinogen Category 2 based on its IARC 2B classification. For many PPG products, TiO₂ is utilized as a raw material in a liquid coating formulation. In this case, the TiO₂ particles are bound in a matrix with no meaningful potential for human exposure to unbound particles of TiO₂ when the product is applied with a brush or roller. Sanding the coating surface or mist from spray applications may be harmful depending on the duration and level of exposure and require the use of appropriate personal protective equipment and/or engineering controls (see Section 8).

GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

:

- ☑ Highly flammable liquid and vapor.
- Harmful if swallowed or in contact with skin.
- Causes severe skin burns and eye damage.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause an allergic skin reaction.
- May cause genetic defects.
- May cause cancer.
- May damage fertility.
- Suspected of damaging the unborn child.
- May cause respiratory irritation.
- Causes damage to organs through prolonged or repeated exposure. (kidneys, respiratory tract)

Precautionary statements

Prevention

:

- ☑ Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response

:

- ☑ Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove

Section 2. Hazards identification

| | |
|---|--|
| | contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. |
| 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 | : Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. NTP, IARC and OSHA have classified chromium (+6) compounds as carcinogenic. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated. |
| Hazards not otherwise classified | : Oxidising potential : Contact with combustible material may cause fire. Keep away from clothing, incompatible materials and combustible materials. This material increases the risk of fire and may aid combustion. Prolonged or repeated contact may dry skin and cause irritation. |

Section 3. Composition/information on ingredients

| | |
|--------------------------|--------------------------|
| Substance/mixture | : Mixture |
| Product name | : 02GN089 BASE COMPONENT |

| Ingredient name | % | CAS number |
|--|------------------------|----------------|
| 4-chloro- α,α,α -trifluorotoluene | $\geq 20 - \leq 30$ | 98-56-6 |
| barium chromate | $\geq 10 - \leq 19$ | 10294-40-3 |
| pentan-2-one | $\geq 5.0 - \leq 10$ | 107-87-9 |
| butan-2-ol | $\geq 5.0 - \leq 9.2$ | 78-92-2 |
| proprietary micronized polypropylene wax | $\geq 5.0 - \leq 8.0$ | Not available. |
| titanium dioxide | $\geq 1.0 - \leq 5.0$ | 13463-67-7 |
| Formaldehyde, polymer with benzenamine, hydrogenated | $\geq 1.0 - \leq 5.0$ | 135108-88-2 |
| benzyl alcohol | $\geq 1.0 - \leq 3.0$ | 100-51-6 |
| Epoxy resin (MW ≤ 700) | ≤ 2.0 | 25068-38-6 |
| 2,4,6-tris(dimethylaminomethyl)phenol | ≤ 1.5 | 90-72-2 |
| Mixture of Cycloaliphatic Amines | ≤ 1.5 | Not available. |
| 4-methylpentan-2-one | $\geq 0.10 - \leq 2.9$ | 108-10-1 |
| 2-piperazin-1-ylethylamine | ≤ 1.1 | 140-31-8 |
| bisphenol A | < 1.0 | 80-05-7 |
| 4-nonylphenol, branched | < 1.0 | 84852-15-3 |
| carbon black, respirable powder | < 1.0 | 1333-86-4 |

SUB codes represent substances without registered CAS Numbers.

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

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

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

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes severe burns. Harmful in contact with skin. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Section 4. First aid measures

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.
- 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. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. 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 oxides
nitrogen oxides
halogenated compounds
carbonyl halides
metal oxide/oxides

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

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

- 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

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. 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.
- Special precautions** : Ingestion of product or cured coating may be harmful. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. Keep away from combustible materials. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.
- 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.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| 4-chloro- α,α,α -trifluorotoluene | IPEL (PPG). TWA: 25 ppm |
| barium chromate | ACGIH TLV (United States, 3/2019). TWA: 0.0002 mg/m ³ , (measured as Cr) 8 hours. Form: Inhalable fraction STEL: 0.0005 mg/m³, (measured as Cr) 15 minutes. Form: Inhalable fraction OSHA PEL (United States, 5/2018). TWA: 0.005 mg/m ³ , (as Cr) 8 hours. OSHA PEL Z2 (United States, 2/2013). CEIL: 1 mg/10m ³ OSHA PEL (United States). TWA: 5 mg/m ³ |
| pentan-2-one | OSHA PEL (United States, 5/2018). TWA: 700 mg/m ³ 8 hours. TWA: 200 ppm 8 hours. ACGIH TLV (United States, 3/2019). STEL: 150 ppm 15 minutes. |
| butan-2-ol | ACGIH TLV (United States, 3/2019). TWA: 303 mg/m ³ 8 hours. TWA: 100 ppm 8 hours. OSHA PEL (United States, 5/2018). TWA: 450 mg/m ³ 8 hours. TWA: 150 ppm 8 hours. |
| proprietary micronized polypropylene wax | ACGIH TLV (United States). TWA: 3 mg/m ³ Form: Respirable dust TWA: 10 mg/m ³ Form: Total dust OSHA PEL (United States). TWA: 5 mg/m ³ Form: Respirable fraction TWA: 15 mg/m ³ Form: Total particulates |
| titanium dioxide | OSHA PEL (United States, 5/2018). TWA: 15 mg/m ³ 8 hours. Form: Total dust ACGIH TLV (United States, 3/2019). TWA: 10 mg/m ³ 8 hours. |
| Formaldehyde, polymer with benzenamine, hydrogenated benzyl alcohol | None. IPEL (PPG). |

Section 8. Exposure controls/personal protection

Epoxy resin (MW ≤ 700)
2,4,6-tris(dimethylaminomethyl)phenol
Mixture of Cycloaliphatic Amines
4-methylpentan-2-one

2-piperazin-1-ylethylamine
bisphenol A

4-nonylphenol, branched
carbon black, respirable powder

TWA: 10 ppm
STEL: 50 ppm

None.

None.

None.

ACGIH TLV (United States, 3/2019).

STEL: 75 ppm 15 minutes.

TWA: 20 ppm 8 hours.

OSHA PEL (United States, 5/2018).

TWA: 410 mg/m³ 8 hours.

TWA: 100 ppm 8 hours.

None.

IPEL (PPG).

STEL: 5 mg/m³

None.

ACGIH TLV (United States, 3/2019).

TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction

OSHA PEL (United States, 5/2018).

TWA: 3.5 mg/m³ 8 hours.

Key to abbreviations

| | |
|-------|--|
| A | = Acceptable Maximum Peak |
| ACGIH | = American Conference of Governmental Industrial Hygienists. |
| C | = Ceiling Limit |
| F | = Fume |
| IPEL | = Internal Permissible Exposure Limit |
| OSHA | = Occupational Safety and Health Administration. |
| R | = Respirable |
| Z | = OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances |

| | |
|------|------------------------------------|
| S | = Potential skin absorption |
| SR | = Respiratory sensitization |
| SS | = Skin sensitization |
| STEL | = Short term Exposure limit values |
| TD | = Total dust |
| TLV | = Threshold Limit Value |
| TWA | = Time Weighted Average |

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

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

Section 8. Exposure controls/personal protection

- 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** : Chemical splash goggles and face shield.
- 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.
- Gloves** : nitrile neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : By spraying: air-fed respirator. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Green.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 7.78°C (46°F)
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Evaporation rate** : Not available.
- Vapor pressure** : Not available.

Section 9. Physical and chemical properties

| | |
|--|--|
| Vapor density | : Not available. |
| Relative density | : 1.27 |
| Density (lbs / gal) | : 10.6 |
| Solubility | : Insoluble in the following materials: cold water. |
| Partition coefficient: n-octanol/water | : Not available. |
| Viscosity | : Kinematic (40°C (104°F)): >0.21 cm ² /s (>21 cSt) |
| VOC | : 402 g/l |
| % Solid. (w/w) | : 49.2 |

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 | : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8. |
| Incompatible materials | : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids. |
| Hazardous decomposition products | : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|--|---------------------------------|---------|-------------------------|----------|
| 4-chloro- α,α,α -trifluorotoluene | LC50 Inhalation Vapor | Rat | 33080 mg/m ³ | 4 hours |
| | LD50 Dermal | Rabbit | >2.7 g/kg | - |
| | LD50 Oral | Rat | 13 g/kg | - |
| pentan-2-one | LC50 Inhalation Vapor | Rat | 25.5 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | 6500 mg/kg | - |
| | LD50 Oral | Rat | 1600 mg/kg | - |
| butan-2-ol | LC50 Inhalation Vapor | Rat | 48500 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 2054 mg/kg | - |
| | LD50 Dermal | Rabbit | >2000 mg/kg | - |
| proprietary micronized polypropylene wax | LD50 Oral | Rat | >5000 mg/kg | - |
| | LD50 Oral | Rat | >5000 mg/kg | - |
| titanium dioxide | LC50 Inhalation Dusts and mists | Rat | >6.82 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | >5000 mg/kg | - |

Section 11. Toxicological information

| | | | | |
|---|---------------------------------|--------|-------------------------|---------|
| benzyl alcohol | LC50 Inhalation Dusts and mists | Rat | >4178 mg/m ³ | 4 hours |
| | LD50 Dermal | Rabbit | 2000 mg/kg | - |
| | LD50 Oral | Rat | 1.23 g/kg | - |
| Epoxy resin (MW ≤ 700) | LD50 Dermal | Rabbit | >2 g/kg | - |
| | LD50 Oral | Rat | >2 g/kg | - |
| 2,4,6-tris (dimethylaminomethyl)phenol | LD50 Dermal | Rabbit | 1.28 g/kg | - |
| | LD50 Dermal | Rat | 1280 mg/kg | - |
| | LD50 Oral | Rat | 1200 mg/kg | - |
| Mixture of Cycloaliphatic Amines | LD50 Dermal | Rabbit | >1 g/kg | - |
| 4-methylpentan-2-one | LC50 Inhalation Vapor | Rat | 12.3 mg/l | 4 hours |
| | LD50 Oral | Rat | 2.08 g/kg | - |
| 2-piperazin-1-ylethylamine | LC50 Inhalation Dusts and mists | Rat | >5 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | 866 mg/kg | - |
| | LD50 Oral | Rat | 2140 mg/kg | - |
| bisphenol A | LD50 Dermal | Rabbit | 3600 mg/kg | - |
| | LD50 Oral | Rat | 3.25 g/kg | - |
| 4-nonylphenol, branched | LD50 Dermal | Rabbit | 2.14 g/kg | - |
| | LD50 Oral | Rat | 1300 mg/kg | - |
| carbon black, respirable powder | LD50 Dermal | Rabbit | >3 g/kg | - |
| | LD50 Oral | Rat | >15400 mg/kg | - |

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|-------------------------|---------|-------|----------|-------------|
| Epoxy resin (MW ≤ 700) | Skin - Mild irritant | Rabbit | - | - | - |
| | Eyes - Mild irritant | Rabbit | - | - | - |
| 2,4,6-tris (dimethylaminomethyl)phenol | Skin - Visible necrosis | Rabbit | - | 4 hours | 7 days |
| 4-nonylphenol, branched | Skin - Erythema/Eschar | Rabbit | 4 | - | - |

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

| Product/ingredient name | Route of exposure | Species | Result |
|--|-------------------|------------|-------------|
| Formaldehyde, polymer with benzenamine, hydrogenated | skin | Guinea pig | Sensitizing |
| Epoxy resin (MW ≤ 700) | skin | Mouse | Sensitizing |
| 2,4,6-tris (dimethylaminomethyl)phenol | skin | Guinea pig | Sensitizing |
| 2-piperazin-1-ylethylamine | skin | Guinea pig | Sensitizing |

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Section 11. Toxicological information

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|---------------------------------|------|------|---------------------------------|
| barium chromate | + | 1 | Known to be a human carcinogen. |
| titanium dioxide | - | 2B | - |
| 4-methylpentan-2-one | - | 2B | - |
| carbon black, respirable powder | - | 2B | - |

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4

NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen

OSHA: +

Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|--|--------------------------|------------------------------------|--|
| 4-chloro- α,α,α -trifluorotoluene | Category 3 | Not applicable. | Respiratory tract irritation |
| pentan-2-one | Category 3 Category 3 | Not applicable. Not applicable. | Narcotic effects Respiratory tract irritation |
| butan-2-ol | Category 3 Category 3 | Not applicable. Not applicable. | Narcotic effects Respiratory tract irritation |
| 4-methylpentan-2-one | Category 3 | Not applicable. | Respiratory tract irritation |
| bisphenol A | Category 3 | Not applicable. | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|---|--------------------------|--------------------|-------------------------------|
| barium chromate | Category 1 | Not determined | kidneys and respiratory tract |
| Formaldehyde, polymer with benzenamine, hydrogenated 2-piperazin-1-ylethylamine | Category 2 Category 1 | Oral Inhalation | kidneys respiratory tract |

Section 11. Toxicological information

Target organs : Contains material which causes damage to the following organs: blood, kidneys, liver, heart, brain, upper respiratory tract, central nervous system (CNS).
Contains material which may cause damage to the following organs: lungs, immune system, skin, eye, lens or cornea.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact : Causes severe burns. Harmful in contact with skin. Defatting to the skin. May cause an allergic skin reaction.
Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

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

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself. This product contains TiO₂ which has been classified as a GHS Carcinogen Category 2 based on its IARC 2B classification. For many PPG products, TiO₂ is utilized as a raw material in a liquid coating formulation. In this case, the TiO₂ particles are bound in a matrix with no meaningful potential for human exposure to unbound particles of TiO₂ when the product is applied with a brush or roller. Sanding the coating surface or mist from spray applications may be harmful depending on the duration and level of exposure and require the use of appropriate personal protective equipment and/or engineering controls (see Section 8). Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. 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 : May cause genetic defects.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : May damage fertility.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|--|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| 02GN089 BASE COMPONENT | 1612 | 1105.7 | N/A | 50.1 | 32.2 |
| 4-chloro- α,α,α -trifluorotoluene | 13000 | 2500 | N/A | 33.08 | N/A |
| barium chromate | 500 | 300 | N/A | 11 | N/A |
| pentan-2-one | 1600 | 6500 | N/A | 25.5 | N/A |
| butan-2-ol | 2054 | N/A | N/A | 48.5 | N/A |
| proprietary micronized polypropylene wax | N/A | 2500 | N/A | N/A | N/A |
| Formaldehyde, polymer with benzenamine, hydrogenated | 500 | N/A | N/A | N/A | N/A |
| benzyl alcohol | 1230 | 2000 | N/A | N/A | 1.5 |
| Epoxy resin (MW \leq 700) | 2500 | 2500 | N/A | N/A | N/A |
| 2,4,6-tris(dimethylaminomethyl)phenol | 1200 | 1280 | N/A | N/A | N/A |
| Mixture of Cycloaliphatic Amines | 500 | 1100 | N/A | N/A | N/A |
| 4-methylpentan-2-one | 2080 | N/A | N/A | 12.3 | 1.5 |
| 2-piperazin-1-ylethylamine | 2140 | 866 | N/A | N/A | N/A |
| bisphenol A | 3250 | 3600 | N/A | N/A | N/A |
| 4-nonylphenol, branched | 1300 | 2140 | N/A | N/A | N/A |
| carbon black, respirable powder | N/A | 2500 | N/A | N/A | N/A |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|--|-------------------------------------|---|----------|
| titanium dioxide | Acute LC50 >100 mg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| Formaldehyde, polymer with benzenamine, hydrogenated | Acute EC50 63 mg/l | Fish | 96 hours |
| Epoxy resin (MW \leq 700) | Acute LC50 1.8 mg/l | Daphnia | 48 hours |
| | Chronic NOEC 0.3 mg/l | Daphnia | 21 days |
| 2,4,6-tris(dimethylaminomethyl)phenol | Acute LC50 175 mg/l | Fish | 96 hours |
| 2-piperazin-1-ylethylamine | Acute EC50 58 mg/l | Daphnia | 48 hours |
| bisphenol A | Chronic EC10 3.47 mg/l Marine water | Algae - Cochlodinium polykrikoides - Exponential growth phase | 72 hours |
| | Chronic NOEC 0.86 mg/l Fresh water | Daphnia - Daphnia magna - Neonate | 21 days |
| 4-nonylphenol, branched | Acute LC50 0.221 mg/l | Fish | 96 hours |

Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|-----------------------------|-----------|-----------------------------|------|----------|
| Epoxy resin (MW \leq 700) | OECD 301F | 5 % - 28 days | - | - |
| 2-piperazin-1-ylethylamine | OECD 301F | 0 % - Not readily - 28 days | - | - |

Section 12. Ecological information

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|----------------------------|-------------------|------------|------------------|
| benzyl alcohol | - | - | Readily |
| Epoxy resin (MW ≤ 700) | - | - | Not readily |
| 2-piperazin-1-ylethylamine | - | - | Not readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|------------|-----------|
| pentan-2-one | 0.91 | - | low |
| butan-2-ol | 0.61 | - | low |
| Formaldehyde, polymer with benzenamine, hydrogenated | - | 209 to 219 | low |
| benzyl alcohol | 1.1 | - | low |
| Epoxy resin (MW ≤ 700) | 3 | 31 | low |
| 4-methylpentan-2-one | 1.31 | - | low |
| bisphenol A | 3.32 | 43.65 | low |
| 4-nonylphenol, branched | - | 251.19 | low |

Mobility in soil

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

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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

| | DOT | IMDG | IATA |
|-----------------------------|-----------------------------|--|--|
| UN number | UN3469 | UN3469 | UN3469 |
| UN proper shipping name | PAINT, FLAMMABLE, CORROSIVE | PAINT, FLAMMABLE, CORROSIVE | PAINT, FLAMMABLE, CORROSIVE |
| Transport hazard class (es) | 3 (8) | 3 (8) | 3 (8) |
| Packing group | II | II | II |
| Environmental hazards | No. | Yes. | Yes. The environmentally hazardous substance mark is not required. |
| Marine pollutant substances | Not applicable. | Barium chromate, Epoxy resin (MW ≤ 700)) | Not applicable. |
| Product RQ (lbs) | 10935 | Not applicable. | Not applicable. |
| RQ substances | (strontium chromate) | Not applicable. | Not applicable. |

Additional information

- DOT** : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- 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.

Section 15. Regulatory information

United States

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

United States - TSCA 12(b) - Chemical export notification:

barium chromate
4-chloro- α,α,α -trifluorotoluene

Annual notification
One time notification

United States - TSCA 5(a)2 - Final significant new use rules:

4-nonylphenol, branched

Listed

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Section 15. Regulatory information

Classification : **F** FLAMMABLE LIQUIDS - Category 2
 ACUTE TOXICITY (oral) - Category 4
 ACUTE TOXICITY (dermal) - Category 4
 SKIN CORROSION - Category 1C
 SERIOUS EYE DAMAGE - Category 1
 RESPIRATORY SENSITIZATION - Category 1
 SKIN SENSITIZATION - Category 1
 GERM CELL MUTAGENICITY - Category 1
 CARCINOGENICITY - Category 1A
 TOXIC TO REPRODUCTION (Fertility) - Category 1B
 TOXIC TO REPRODUCTION (Unborn child) - Category 2
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys, respiratory tract) - Category 1
 HNOC - Defatting irritant
 HNOC - Avoid contact with organic materials.

Composition/information on ingredients

| Name | % | Classification |
|--|-----------------------|---|
| F -chloro- α,α,α -trifluorotoluene | $\geq 20 - \leq 30$ | FLAMMABLE LIQUIDS - Category 3 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 HNOC - Defatting irritant |
| barium chromate | $\geq 10 - \leq 19$ | ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 4 RESPIRATORY SENSITIZATION - Category 1B SKIN SENSITIZATION - Category 1B GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1A TOXIC TO REPRODUCTION (Fertility) - Category 2 TOXIC TO REPRODUCTION (Unborn child) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys, respiratory tract) - Category 1 HNOC - Avoid contact with organic materials. |
| pentan-2-one | $\geq 5.0 - \leq 10$ | FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 HNOC - Defatting irritant |
| butan-2-ol | $\geq 5.0 - \leq 9.2$ | FLAMMABLE LIQUIDS - Category 3 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 |

Section 15. Regulatory information

| | | |
|--|--------------|--|
| titanium dioxide | ≥1.0 - ≤5.0 | HNOC - Defatting irritant CARCINOGENICITY - Category 2 |
| Formaldehyde, polymer with benzenamine, hydrogenated | ≥1.0 - ≤5.0 | ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) (oral) - Category 2 |
| benzyl alcohol | ≥1.0 - ≤3.0 | HNOC - Defatting irritant ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1B |
| Epoxy resin (MW ≤ 700) | ≤2.0 | ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B |
| 2,4,6-tris(dimethylaminomethyl) phenol | ≤1.5 | ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B |
| Mixture of Cycloaliphatic Amines | ≤1.5 | ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 EYE IRRITATION - Category 2A |
| 4-methylpentan-2-one | ≥0.10 - ≤2.9 | FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |
| 2-piperazin-1-ylethylamine | ≤1.1 | HNOC - Defatting irritant FLAMMABLE LIQUIDS - Category 4 ACUTE TOXICITY (dermal) - Category 3 SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B TOXIC TO REPRODUCTION (Fertility) (oral) - Category 2 TOXIC TO REPRODUCTION (Unborn child) (oral) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (respiratory tract) (inhalation) - Category 1 |
| bisphenol A | <1.0 | COMBUSTIBLE DUSTS SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B TOXIC TO REPRODUCTION (Fertility) - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |
| 4-nonylphenol, branched | <1.0 | ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1 TOXIC TO REPRODUCTION (Fertility) - Category 2 TOXIC TO REPRODUCTION (Unborn child) - Category 2 |
| carbon black, respirable powder | <1.0 | HNOC - Corrosive to digestive tract COMBUSTIBLE DUSTS |

Section 15. Regulatory information

CARCINOGENICITY - Category 2

SARA 313

| | <u>Chemical name</u> | <u>CAS number</u> | <u>Concentration</u> |
|------------------------------|----------------------|-------------------|----------------------|
| Supplier notification | : barium chromate | 10294-40-3 | 10 - 30 |
| | butan-2-ol | 78-92-2 | 5 - 10 |
| | 4-methylpentan-2-one | 108-10-1 | 0.5 - 1.5 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

California Prop. 65

⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

Section 16. Other information**Hazardous Material Information System (U.S.A.)**

Health : 3 * **Flammability** : 3 **Physical hazards** : 0

(*) - Chronic effects

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 MSDSs 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.

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.

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

Health : 3 **Flammability** : 3 **Instability** : 0

Date of previous issue : 11/26/2019

Organization that prepared the MSDS : EHS

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.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET



Date of issue/Date of revision 14 October 2019

Version 5

Section 1. Identification

Product name : 02GN089CAT CURING SOLUTION
Product code : 02GN089CAT CURING SOLUTION
Other means of identification : Not available.
Product type : Liquid.

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

Product use : Industrial applications.
Use of the substance/mixture : Catalyst.
Uses advised against : Not applicable.

Manufacturer : PPG Aerospace PRC-DeSoto
12780 San Fernando Road
Sylmar, CA 91342
Phone: 818 362 6711

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)

Section 2. Hazards identification

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

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 6.9% (Oral), 8.1% (Dermal), 80.6% (Inhalation)

GHS label elements

Hazard pictograms :



Signal word : Danger

Section 2. Hazards identification

Hazard statements : Highly flammable liquid and vapor.
Harmful if inhaled.
Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

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

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

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

Supplemental label elements : Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : 02GN089CAT CURING SOLUTION

| Ingredient name | % | CAS number |
|---|--------------|------------|
| Epoxy resin (MW ≤ 700) | ≥50 - ≤75 | 25068-38-6 |
| pentan-2-one | ≥10 - ≤13 | 107-87-9 |
| heptan-2-one | ≥1.0 - ≤6.6 | 110-43-0 |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | ≥1.0 - ≤4.9 | 25068-38-6 |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | ≥0.10 - ≤2.6 | 2530-83-8 |
| 4-methylpentan-2-one | ≤1.5 | 108-10-1 |

SUB codes represent substances without registered CAS Numbers.

Section 3. Composition/information on ingredients

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

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

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

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

- Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Causes skin irritation. Defatting to the skin. 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
dryness
cracking
- 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.

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. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. 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 oxides
halogenated compounds
metal oxide/oxides

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

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

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

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). 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 ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Special precautions** : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.
- 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.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---|--|
| Epoxy resin (MW ≤ 700) | None. |
| pentan-2-one | OSHA PEL (United States, 5/2018). TWA: 700 mg/m ³ 8 hours. TWA: 200 ppm 8 hours. |
| heptan-2-one | ACGIH TLV (United States, 3/2018). STEL: 150 ppm 15 minutes. ACGIH TLV (United States, 3/2018). TWA: 233 mg/m ³ 8 hours. TWA: 50 ppm 8 hours. |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | OSHA PEL (United States, 5/2018). TWA: 465 mg/m ³ 8 hours. TWA: 100 ppm 8 hours. |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | None. |
| 4-methylpentan-2-one | None. ACGIH TLV (United States, 3/2018). STEL: 75 ppm 15 minutes. TWA: 20 ppm 8 hours. OSHA PEL (United States, 5/2018). TWA: 410 mg/m ³ 8 hours. TWA: 100 ppm 8 hours. |

Key to abbreviations

| | | | |
|-------|--|------|------------------------------------|
| A | = Acceptable Maximum Peak | S | = Potential skin absorption |
| ACGIH | = American Conference of Governmental Industrial Hygienists. | SR | = Respiratory sensitization |
| C | = Ceiling Limit | SS | = Skin sensitization |
| F | = Fume | STEL | = Short term Exposure limit values |
| IPEL | = Internal Permissible Exposure Limit | TD | = Total dust |
| OSHA | = Occupational Safety and Health Administration. | TLV | = Threshold Limit Value |
| R | = Respirable | TWA | = Time Weighted Average |
| Z | = OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances | | |

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Section 8. Exposure controls/personal protection

- 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** : 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.
- Gloves** : butyl rubber
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.

Section 9. Physical and chemical properties

| | |
|---|--|
| Boiling point | : >37.78°C (>100°F) |
| Flash point | : Closed cup: 7.78°C (46°F) |
| Auto-ignition temperature | : Not available. |
| Decomposition temperature | : Not available. |
| Flammability (solid, gas) | : Not available. |
| Lower and upper explosive (flammable) limits | : Not available. |
| Evaporation rate | : Not available. |
| Vapor pressure | : Not available. |
| Vapor density | : Not available. |
| Relative density | : 1.08 |
| Density (lbs / gal) | : 9.01 |
| Solubility | : Insoluble in the following materials: cold water. |
| Partition coefficient: n-octanol/water | : Not available. |
| Viscosity | : Kinematic (40°C (104°F)): >0.21 cm ² /s (>21 cSt) |
| VOC | : 190 g/l |
| % Solid. (w/w) | : 81.31 |

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 | : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8. |
| Incompatible materials | : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids. |
| Hazardous decomposition products | : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---------------------------------|---------|-------------------------|----------|
| Epoxy resin (MW ≤ 700) | LD50 Dermal | Rabbit | >2 g/kg | - |
| | LD50 Oral | Rat | >2 g/kg | - |
| pentan-2-one | LC50 Inhalation Vapor | Rat | 25.5 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | 6500 mg/kg | - |
| heptan-2-one | LD50 Oral | Rat | 1600 mg/kg | - |
| | LC50 Inhalation Vapor | Rat | 16.7 mg/l | 4 hours |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | LD50 Dermal | Rabbit | 10.206 g/kg | - |
| | LD50 Oral | Rat | 1.6 g/kg | - |
| | LD50 Dermal | Rabbit | >2 g/kg | - |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | LD50 Oral | Rat | 11.4 g/kg | - |
| | LC50 Inhalation Dusts and mists | Rat | >5300 mg/m ³ | 4 hours |
| 4-methylpentan-2-one | LD50 Dermal | Rabbit | 4.3 g/kg | - |
| | LD50 Oral | Rat | 7.01 g/kg | - |
| | LC50 Inhalation Vapor | Rat | 12.3 mg/l | 4 hours |
| | LD50 Oral | Rat | 2.08 g/kg | - |

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|--------------------------|---------|-------|----------|-------------|
| Epoxy resin (MW ≤ 700) | Skin - Mild irritant | Rabbit | - | - | - |
| | Eyes - Mild irritant | Rabbit | - | - | - |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | Skin - Moderate irritant | Rabbit | - | - | - |
| | Eyes - Moderate irritant | Rabbit | - | - | - |

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

| Product/ingredient name | Route of exposure | Species | Result |
|---|-------------------|---------|-------------|
| Epoxy resin (MW ≤ 700) reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | skin | Mouse | Sensitizing |
| | skin | Mouse | Sensitizing |

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Section 11. Toxicological information

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|-----|
| 4-methylpentan-2-one | - | 2B | - |

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4

NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen

OSHA: +

Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|--------------------------------------|--------------------------|------------------------------------|--|
| pentan-2-one | Category 3 Category 3 | Not applicable. Not applicable. | Narcotic effects Respiratory tract irritation |
| heptan-2-one 4-methylpentan-2-one | Category 3 Category 3 | Not applicable. Not applicable. | Narcotic effects Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

Not available.

Target organs

: Contains material which causes damage to the following organs: brain, skin.
Contains material which may cause damage to the following organs: kidneys, lungs, liver, peripheral nervous system, upper respiratory tract, central nervous system (CNS), eye, lens or cornea.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled.

Skin contact : Causes skin irritation. Defatting to the skin. 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.

Section 11. Toxicological information

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

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

Conclusion/Summary : There are no data available on the mixture itself. Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. 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.

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

Section 11. Toxicological information

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| 02GN089CAT CURING SOLUTION | 2549.5 | 3347.7 | N/A | 45.5 | 4.4 |
| Epoxy resin (MW ≤ 700) | 2500 | 2500 | N/A | N/A | N/A |
| pentan-2-one | 1600 | 6500 | N/A | 25.5 | N/A |
| heptan-2-one | 1600 | 10206 | N/A | 16.7 | 1.5 |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 11400 | 2500 | N/A | N/A | N/A |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane | 7010 | 4300 | N/A | N/A | N/A |
| 4-methylpentan-2-one | 2080 | N/A | N/A | 12.3 | 1.5 |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|--|--------------------|---------------------|
| Epoxy resin (MW ≤ 700) | Acute LC50 1.8 mg/l Chronic NOEC 0.3 mg/l | Daphnia Daphnia | 48 hours 21 days |
| heptan-2-one | Acute LC50 131 mg/l | Fish | 96 hours |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | Chronic NOEC 0.3 mg/l | Daphnia | 21 days |

Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|-----------|--------------------------|------|----------|
| Epoxy resin (MW ≤ 700) | OECD 301F | 5 % - 28 days | - | - |
| heptan-2-one | OECD 310 | 69 % - Readily - 28 days | - | - |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | OECD 301F | 5 % - 28 days | - | - |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|------------------|
| Epoxy resin (MW ≤ 700) | - | - | Not readily |
| heptan-2-one | - | - | Readily |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | - | - | Not readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| Epoxy resin (MW ≤ 700) | 3 | 31 | low |
| pentan-2-one | 0.91 | - | low |
| heptan-2-one | 1.98 | - | low |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin | 3 | 31 | low |
| 4-methylpentan-2-one | 1.31 | - | low |

Section 12. Ecological information

Mobility in soil

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

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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

| | DOT | IMDG | IATA |
|-----------------------------|-----------------|---|--|
| UN number | UN1263 | UN1263 | UN1263 |
| UN proper shipping name | PAINT | PAINT | PAINT |
| Transport hazard class(es) | 3 | 3 | 3 |
| Packing group | II | II | II |
| Environmental hazards | No. | Yes. | Yes. The environmentally hazardous substance mark is not required. |
| Marine pollutant substances | Not applicable. | ☑ Epoxy resin (MW ≤ 700), reaction product: bisphenol-A-(epichlorhydrin); epoxy resin) | Not applicable. |

Additional information

DOT : None identified.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

14. Transport information

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.

Section 15. Regulatory information

United States

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

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : FLAMMABLE LIQUIDS - Category 2
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
HNOC - Defatting irritant

Composition/information on ingredients

| Name | % | Classification |
|---|--------------|---|
| Epoxy resin (MW ≤ 700) | ≥50 - ≤75 | SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A |
| pentan-2-one | ≥10 - ≤13 | SKIN SENSITIZATION - Category 1B FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 HNOC - Defatting irritant |
| heptan-2-one | ≥1.0 - ≤6.6 | FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 HNOC - Defatting irritant |
| reaction product: bisphenol-A- (epichlorhydrin); epoxy resin | ≥1.0 - ≤4.9 | SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1B |
| [3-(2,3-epoxypropoxy)propyl] trimethoxysilane | ≥0.10 - ≤2.6 | SERIOUS EYE DAMAGE - Category 1 |
| 4-methylpentan-2-one | ≤1.5 | FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A |

Section 15. Regulatory information

| | | |
|--|--|--|
| | | CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 HNOC - Defatting irritant |
|--|--|--|

SARA 313

| | <u>Chemical name</u> | <u>CAS number</u> | <u>Concentration</u> |
|------------------------------|------------------------|-------------------|----------------------|
| Supplier notification | : 4-methylpentan-2-one | 108-10-1 | 0.5 - 1.5 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

California Prop. 65

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

Section 16. Other information**Hazardous Material Information System (U.S.A.)**

Health : 2 * **Flammability** : 3 **Physical hazards** : 0

(*) - Chronic effects

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 MSDSs 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.

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.

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

Health : 2 **Flammability** : 3 **Instability** : 0

Date of previous issue : 4/12/2019

Organization that prepared the MSDS : EHS

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.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.