# SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

# 857G-018 ONE COAT BLUE

| Version | Revision Date: | SDS Number: | Date of last issue: 05/24/2024 |
|---|---|---|---|
| 13.0 | 11/05/2024 | 1347000-00049 | Date of first issue: 02/27/2017 |

## SECTION 1. IDENTIFICATION

Product name : 857G-018 ONE COAT BLUE

SDS-Identcode : 130000127885

**Manufacturer or supplier's details**

Company name of supplier : The Chemours Company FC, LLC

Address : 1007 Market Street
Wilmington, DE 19801 United States of America (USA)

Telephone : 1-844-773-CHEM (outside the U.S. 1-302-773-1000)

Emergency telephone : Medical emergency: 1-866-595-1473 (outside the U.S. 1-302-773-2000) ; Transport emergency: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

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

Recommended use : Coatings

Restrictions on use : For industrial use only.
Do not use or resell Chemours™ materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless agreed to by Seller in a written agreement covering such use. For further information, please contact your Chemours representative.

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Skin irritation : Category 2

Serious eye damage : Category 1

Skin sensitization : Category 1

Specific target organ toxicity - single exposure : Category 3

**GHS label elements**

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Precautionary Statements :

**Prevention:**

P261 Avoid breathing mist or vapors.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves, eye protection and face protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER.
P333 + P313 If skin irritation or rash occurs: Get medical attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents and container to an approved waste disposal plant.

**Other hazards**

The thermal decomposition vapors of fluorinated plastics may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Paint

**Components**

| Chemical name | CAS-No. | Concentration (% w/w) |
|---|---|---|
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - | 25068-38-6 | >= 10 - < 20 |

| | | |
|---|---|---|
| 1200) | | |
| 2-Butoxyethanol | 111-76-2 | >= 5 - < 10 |
| 2-(2-Butoxyethoxy)ethanol | 112-34-5 | >= 1 - < 5 |
| 2-Dimethylaminoethanol | 108-01-0 | >= 1 - < 5 |
| Titanium dioxide | 13463-67-7 | >= 1 - < 5 |
| Methacrylic acid | 79-41-4 | >= 1 - < 5 |

Actual concentration is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention immediately.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause respiratory irritation.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically and supportively.

## SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

| | | |
|---|---|---|
| Unsuitable extinguishing media | : | None known. |
| Specific hazards during fire fighting | : | Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : | Chlorine compounds<br>Carbon oxides<br>Hydrogen fluoride<br>carbonyl fluoride<br>potentially toxic fluorinated compounds<br>aerosolized particulates<br>Nitrogen oxides (NOx)<br>Metal oxides |
| Specific extinguishing methods | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.<br>Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8). |
| Environmental precautions | : | Avoid release to the environment.<br>Prevent further leakage or spillage if safe to do so.<br>Prevent spreading over a wide area (e.g., by containment or oil barriers).<br>Retain and dispose of contaminated wash water.<br>Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | : | Soak up with inert absorbent material.<br>For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.<br>Clean up remaining materials from spill with suitable absorbent.<br>Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine |

which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

## SECTION 7. HANDLING AND STORAGE

| | | |
|---|---|---|
| Technical measures | : | See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section. |
| Local/Total ventilation | : | If sufficient ventilation is unavailable, use with local exhaust ventilation. |
| Advice on safe handling | : | Do not get on skin or clothing.<br>Avoid breathing mist or vapors.<br>Do not swallow.<br>Do not get in eyes.<br>Wash skin thoroughly after handling.<br>Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment<br>Keep container tightly closed.<br>Already sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers.<br>Take care to prevent spills, waste and minimize release to the environment.<br><br>Do not breathe decomposition products. |
| Conditions for safe storage | : | Keep in properly labeled containers.<br>Store locked up.<br>Keep tightly closed.<br>Keep in a cool, well-ventilated place.<br>Store in accordance with the particular national regulations. |
| Materials to avoid | : | No special restrictions on storage with other products. |
| Recommended storage temperature | : | 41 - 77 °F / 5 - 25 °C |
| Further information on storage stability | : | Do not freeze. |

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| 2-Butoxyethanol | 111-76-2 | TWA | 20 ppm | ACGIH |

| | | | | |
|---|---|---|---|---|
| | | TWA | 5 ppm<br>24 mg/m³ | NIOSH REL |
| | | TWA | 50 ppm<br>240 mg/m³ | OSHA Z-1 |
| 2-(2-Butoxyethoxy)ethanol | 112-34-5 | TWA (Inhalable fraction and vapor) | 10 ppm | ACGIH |
| Titanium dioxide | 13463-67-7 | TWA (Respirable particulate matter) | 2.5 mg/m³<br>(Titanium dioxide) | ACGIH |
| | | TWA (total dust) | 15 mg/m³ | OSHA Z-1 |
| Methacrylic acid | 79-41-4 | TWA | 20 ppm | ACGIH |
| | | TWA | 20 ppm<br>70 mg/m³ | NIOSH REL |

**Occupational exposure limits of decomposition products**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| Hydrogen fluoride | 7664-39-3 | TWA | 0.5 ppm<br>(Fluorine) | ACGIH |
| | | C | 2 ppm<br>(Fluorine) | ACGIH |
| | | TWA | 3 ppm | OSHA Z-2 |
| | | C | 6 ppm<br>5 mg/m³ | NIOSH REL |
| | | TWA | 3 ppm<br>2.5 mg/m³ | NIOSH REL |
| Carbonyl difluoride | 353-50-4 | TWA | 2 ppm | ACGIH |
| | | STEL | 5 ppm | ACGIH |
| | | TWA | 2 ppm<br>5 mg/m³ | NIOSH REL |
| | | ST | 5 ppm<br>15 mg/m³ | NIOSH REL |
| Carbon dioxide | 124-38-9 | TWA | 5,000 ppm | ACGIH |
| | | STEL | 30,000 ppm | ACGIH |
| | | TWA | 5,000 ppm<br>9,000 mg/m³ | NIOSH REL |
| | | ST | 30,000 ppm<br>54,000 mg/m³ | NIOSH REL |
| | | TWA | 5,000 ppm<br>9,000 mg/m³ | OSHA Z-1 |
| Carbon monoxide | 630-08-0 | TWA | 25 ppm | ACGIH |
| | | TWA | 35 ppm<br>40 mg/m³ | NIOSH REL |
| | | C | 200 ppm<br>229 mg/m³ | NIOSH REL |

| | | | | |
|---|---|---|---|---|
| | | TWA | 50 ppm<br>55 mg/m³ | OSHA Z-1 |
| Methanol | 67-56-1 | TWA | 200 ppm | ACGIH |
| | | STEL | 250 ppm | ACGIH |
| | | ST | 250 ppm<br>325 mg/m³ | NIOSH REL |
| | | TWA | 200 ppm<br>260 mg/m³ | NIOSH REL |
| | | TWA | 200 ppm<br>260 mg/m³ | OSHA Z-1 |
| Formaldehyde | 50-00-0 | TWA | 0.1 ppm | ACGIH |
| | | STEL | 0.3 ppm | ACGIH |
| | | TWA | 0.016 ppm | NIOSH REL |
| | | C | 0.1 ppm | NIOSH REL |
| | | PEL | 0.75 ppm | OSHA CARC |
| | | STEL | 2 ppm | OSHA CARC |
| | | TWA | 0.016 ppm<br>(Formaldehyde) | NIOSH REL |
| | | C | 0.1 ppm<br>(Formaldehyde) | NIOSH REL |

**Biological occupational exposure limits**

| Components | CAS-No. | Control parameters | Biological specimen | Sam-pling time | Permissible concentra-tion | Basis |
|---|---|---|---|---|---|---|
| 2-Butoxyethanol | 111-76-2 | Butoxyaceti c acid (BAA) | Urine | End of shift (As soon as possible after exposure ceases) | 200 mg/g creatinine | ACGIH BEI |

**Engineering measures** : Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.

**Personal protective equipment**

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazar-dous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate

protection.

Hand protection

| | | |
|---|---|---|
| Material | : | Chemical-resistant gloves |
| Remarks | : | Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. |
| Eye protection | : | Wear the following personal protective equipment:<br>Chemical resistant goggles must be worn.<br>If splashes are likely to occur, wear:<br>Face-shield |
| Skin and body protection | : | Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.<br>Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc). |
| Hygiene measures | : | If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.<br>When using do not eat, drink or smoke.<br>Contaminated work clothing should not be allowed out of the workplace.<br>Wash contaminated clothing before re-use. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | liquid |
| Color | : | blue |
| Odor | : | No data available |
| Odor Threshold | : | No data available |
| pH | : | 8.5 - 11 |
| Melting point/freezing point | : | No data available |
| Initial boiling point and boiling range | : | 212 °F / 100 °C |

| | | |
|---|---|---|
| Flash point | : | does not flash |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | Not applicable |
| Flammability (liquids) | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | No data available |
| Relative vapor density | : | No data available |
| Density | : | 1.1530 g/cm³ |
| Solubility(ies) | | |
| Water solubility | : | soluble |
| Partition coefficient: n-octanol/water | : | Not applicable |
| Autoignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity | | |
| Viscosity, kinematic | : | No data available |
| Explosive properties | : | Not explosive |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing. |
| Particle characteristics | | |
| Particle size | : | Not applicable |

## SECTION 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | Not classified as a reactivity hazard. |
| Chemical stability | : | Stable under normal conditions. |
| Possibility of hazardous reactions | : | Hazardous decomposition products will be formed at elevated temperatures. |
| Conditions to avoid | : | None known. |

Incompatible materials : None.

**Hazardous decomposition products**
Thermal decomposition : Hydrogen fluoride
Carbonyl difluoride
Carbon dioxide
Carbon monoxide
Methanol
Formaldehyde

## SECTION 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**
Inhalation
Skin contact
Ingestion
Eye contact

**Acute toxicity**
Not classified based on available information.

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: > 5,000 mg/kg<br>Method: Calculation method |
| Acute inhalation toxicity | : | Acute toxicity estimate: > 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapor<br>Method: Calculation method |
| Acute dermal toxicity | : | Acute toxicity estimate: > 5,000 mg/kg<br>Method: Calculation method |

**Components:**

**Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - 1200):**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 420<br>Assessment: The substance or mixture has no acute oral toxicity<br>Remarks: Based on data from similar materials |
| Acute dermal toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 402<br>Assessment: The substance or mixture has no acute dermal toxicity<br>Remarks: Based on data from similar materials |

**2-Butoxyethanol:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Guinea pig): 1,200 mg/kg |
| Acute inhalation toxicity | : | Acute toxicity estimate: 3 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapor<br>Method: Expert judgment |
| Acute dermal toxicity | : | LD50 (Guinea pig): > 2,000 mg/kg |

**2-(2-Butoxyethoxy)ethanol:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Mouse): 2,410 mg/kg |
| Acute dermal toxicity | : | LD50 (Rabbit): 2,764 mg/kg |

**2-Dimethylaminoethanol:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 1,182 mg/kg<br>Method: OECD Test Guideline 401 |
| Acute inhalation toxicity | : | LC50 (Rat): 5.97 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapor<br>Method: OECD Test Guideline 403 |
| Acute dermal toxicity | : | LD50 (Rabbit): 1,214 mg/kg |

**Titanium dioxide:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg<br>Method: OECD Test Guideline 425 |
| Acute inhalation toxicity | : | LC50 (Rat): > 6.82 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Assessment: The substance or mixture has no acute inhalation toxicity |
| Acute dermal toxicity | : | Acute toxicity estimate (Rat): > 2,000 mg/kg<br>Method: Expert judgment<br>Assessment: The substance or mixture has no acute dermal toxicity |

**Methacrylic acid:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 1,320 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat): 3.6 - 4.7 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist |
| Acute dermal toxicity | : | LD50 (Rabbit): 500 - 1,000 mg/kg |

**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Result : Skin irritation

**Components:**

**Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - 1200):**

Result : Skin irritation

**2-Butoxyethanol:**

Species : Rabbit
Method : Directive 67/548/EEC, Annex V, B.4.
Result : Skin irritation

**2-(2-Butoxyethoxy)ethanol:**

Species : Rabbit
Method : OECD Test Guideline 404
Result : Mild skin irritation

**2-Dimethylaminoethanol:**

Species : Rabbit
Method : OECD Test Guideline 404
Result : Corrosive after 3 minutes to 1 hour of exposure

**Titanium dioxide:**

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

**Methacrylic acid:**

Species : Rabbit
Method : OECD Test Guideline 404
Result : Corrosive after 3 minutes or less of exposure

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:**

**Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - 1200):**

Result : Irritation to eyes, reversing within 21 days

**2-Butoxyethanol:**

Species : Rabbit

| | | |
|---|---|---|
| Result | : | Irritation to eyes, reversing within 21 days |
| Method | : | OECD Test Guideline 405 |

**2-(2-Butoxyethoxy)ethanol:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Irritation to eyes, reversing within 21 days |

**2-Dimethylaminoethanol:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Irreversible effects on the eye |

**Titanium dioxide:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Method | : | OECD Test Guideline 405 |

**Methacrylic acid:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Irreversible effects on the eye |
| Method | : | Draize Test |

**Respiratory or skin sensitization**

**Skin sensitization**

May cause an allergic skin reaction.

**Respiratory sensitization**

Not classified based on available information.

**Components:**

**Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - 1200):**

| | | |
|---|---|---|
| Test Type | : | Local lymph node assay (LLNA) |
| Routes of exposure | : | Skin contact |
| Species | : | Mouse |
| Method | : | OECD Test Guideline 429 |
| Result | : | positive |
| Remarks | : | Based on data from similar materials |

| | | |
|---|---|---|
| Assessment | : | Probability or evidence of skin sensitization in humans |

**2-Butoxyethanol:**

| | | |
|---|---|---|
| Test Type | : | Maximization Test |
| Routes of exposure | : | Skin contact |
| Species | : | Guinea pig |
| Method | : | OECD Test Guideline 406 |
| Result | : | negative |

**2-(2-Butoxyethoxy)ethanol:**

| | | |
|---|---|---|
| Test Type | : | Maximization Test |
| Routes of exposure | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | negative |

**2-Dimethylaminoethanol:**

| | | |
|---|---|---|
| Test Type | : | Buehler Test |
| Routes of exposure | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | negative |

**Titanium dioxide:**

| | | |
|---|---|---|
| Test Type | : | Buehler Test |
| Routes of exposure | : | Skin contact |
| Species | : | Guinea pig |
| Method | : | OECD Test Guideline 406 |
| Result | : | negative |

| | | |
|---|---|---|
| Test Type | : | Local lymph node assay (LLNA) |
| Routes of exposure | : | Skin contact |
| Species | : | Mouse |
| Method | : | OECD Test Guideline 429 |
| Result | : | negative |

| | | |
|---|---|---|
| Routes of exposure | : | Inhalation |
| Species | : | Mouse |
| Result | : | negative |

| | | |
|---|---|---|
| Routes of exposure | : | Inhalation |
| Species | : | Humans |
| Result | : | negative |

**Methacrylic acid:**

| | | |
|---|---|---|
| Test Type | : | Buehler Test |
| Routes of exposure | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | negative |

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - 1200):**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Result: negative<br>Remarks: Based on data from similar materials |
| Genotoxicity in vivo | : | Test Type: Rodent dominant lethal test (germ cell) (in vivo) |

Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

**2-Butoxyethanol:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: equivocal

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Intraperitoneal injection
Result: negative

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

**2-(2-Butoxyethoxy)ethanol:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse
Application Route: Ingestion
Result: negative

**2-Dimethylaminoethanol:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

**Titanium dioxide:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Test Type: comet assay
Method: OPPTS 870.5140
Result: positive

Genotoxicity in vivo : Test Type: In vivo mammalian alkaline comet assay
Species: Rat
Application Route: intratracheal
Method: OECD Test Guideline 489
Result: negative

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 475
Result: negative

Test Type: Transgenic rodent germ cell gene mutation assay
Species: Mouse
Application Route: Intravenous injection
Method: OECD Test Guideline 488

| | | |
|---|---|---|
| | | Result: negative |
| Germ cell mutagenicity - Assessment | : | Weight of evidence does not support classification as a germ cell mutagen. |

**Methacrylic acid:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Result: negative |
| Genotoxicity in vivo | : | Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)<br>Species: Rat<br>Application Route: Inhalation<br>Result: negative |

**Carcinogenicity**

Not classified based on available information.

**Components:**

**Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - 1200):**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | Ingestion |
| Exposure time | : | 24 month(s) |
| Method | : | OECD Test Guideline 453 |
| Result | : | negative |
| Remarks | : | Based on data from similar materials |

**2-Butoxyethanol:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | inhalation (vapor) |
| Exposure time | : | 2 Years |
| Result | : | negative |

**2-Dimethylaminoethanol:**

| | | |
|---|---|---|
| Species | : | Mouse |
| Application Route | : | Ingestion |
| Exposure time | : | 105 weeks |
| Result | : | negative |

**Titanium dioxide:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | inhalation (dust/mist/fume) |
| Exposure time | : | 2 Years |
| Result | : | negative |

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | Ingestion |
| Exposure time | : | 105 weeks |
| Result | : | negative |

| | | |
|---|---|---|
| Species | : | Mouse |
| Application Route | : | Ingestion |
| Exposure time | : | 103 weeks |
| Result | : | negative |

| | | |
|---|---|---|
| Carcinogenicity - Assessment | : | Weight of evidence does not support classification as a carcinogen |

**Methacrylic acid:**

| | | |
|---|---|---|
| Species | : | Rat |
| Application Route | : | Inhalation |
| Exposure time | : | 2 Years |
| Result | : | negative |

**IARC** Group 2B: Possibly carcinogenic to humans
Titanium dioxide 13463-67-7

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity**

Not classified based on available information.

**Components:**

**Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - 1200):**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 416<br>Result: negative<br>Remarks: Based on data from similar materials |
| Effects on fetal development | : | Test Type: Embryo-fetal development<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 414<br>Result: negative<br>Remarks: Based on data from similar materials |

**2-Butoxyethanol:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study<br>Species: Mouse<br>Application Route: Ingestion<br>Result: negative |
| Effects on fetal development | : | Test Type: Embryo-fetal development |

Species: Rat
Application Route: Ingestion
Result: negative

Test Type: Embryo-fetal development
Species: Rat
Application Route: inhalation (vapor)
Result: negative

**2-(2-Butoxyethoxy)ethanol:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: One-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 415<br>Result: negative |
| Effects on fetal development | : | Test Type: Embryo-fetal development<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative |

**2-Dimethylaminoethanol:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Reproduction/Developmental toxicity screening test<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 421<br>Result: negative |
| Effects on fetal development | : | Test Type: Embryo-fetal development<br>Species: Rat<br>Application Route: inhalation (vapor)<br>Method: OECD Test Guideline 414<br>Result: negative<br><br>Test Type: Embryo-fetal development<br>Species: Rat<br>Application Route: Ingestion<br>Method: OPPTS 870.3700<br>Result: negative |

**Titanium dioxide:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: One-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 443<br>Result: negative |
| Effects on fetal development | : | Test Type: Prenatal development toxicity study (teratogenicity)<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 414 |

Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

**Methacrylic acid:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

**STOT-single exposure**

May cause respiratory irritation.

**Components:**

**2-Dimethylaminoethanol:**

Assessment : May cause respiratory irritation.

**Titanium dioxide:**

Routes of exposure : Skin contact
Assessment : No significant health effects observed in animals at concentrations of 2000 mg/kg bw or less

Routes of exposure : Ingestion
Assessment : No significant health effects observed in animals at concentrations of 2000 mg/kg bw or less

Routes of exposure : inhalation (dust/mist/fume)
Assessment : No significant health effects observed in animals at concentrations of 5.0 mg/l/4h or less

**Methacrylic acid:**

Assessment : May cause respiratory irritation.

**STOT-repeated exposure**

Not classified based on available information.

**Components:**

**Titanium dioxide:**

Routes of exposure : Ingestion
Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

| | | |
|---|---|---|
| Routes of exposure | : | inhalation (dust/mist/fume) |
| Assessment | : | No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less. |

| | | |
|---|---|---|
| Routes of exposure | : | Ingestion |
| Assessment | : | No significant health effects observed in animals at concentrations of 200 mg/kg bw or less. |

**Repeated dose toxicity**

**Components:**

**Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - 1200):**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 50 mg/kg |
| LOAEL | : | 250 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 14 Weeks |
| Method | : | OECD Test Guideline 408 |
| Remarks | : | Based on data from similar materials |

**2-(2-Butoxyethoxy)ethanol:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 250 mg/kg |
| LOAEL | : | 1,000 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |
| Method | : | OECD Test Guideline 408 |

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | >= 0.094 mg/l |
| Application Route | : | inhalation (vapor) |
| Exposure time | : | 90 Days |
| Method | : | OECD Test Guideline 413 |

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | >= 2,000 mg/kg |
| Application Route | : | Skin contact |
| Exposure time | : | 90 Days |

**Titanium dioxide:**

| | | |
|---|---|---|
| Species | : | Rat, male and female |
| NOAEL | : | 24,000 mg/kg |
| LOAEL | : | > 24,000 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 28 Days |
| Method | : | OECD Test Guideline 407 |
| Remarks | : | No significant adverse effects were reported |

| | | |
|---|---|---|
| Species | : | Rat, male and female |

| | | |
|---|---|---|
| NOAEL | : | 0.01 mg/l |
| LOAEL | : | 0.5 mg/l |
| Application Route | : | inhalation (dust/mist/fume) |
| Exposure time | : | 24 Months |
| Method | : | OECD Test Guideline 453 |
| Remarks | : | No significant adverse effects were reported |

| | | |
|---|---|---|
| Species | : | Rat, male and female |
| NOAEL | : | 962 mg/kg |
| LOAEL | : | > 962 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |
| Method | : | OECD Test Guideline 408 |
| Remarks | : | No significant adverse effects were reported |

**Methacrylic acid:**

| | | |
|---|---|---|
| Species | : | Mouse |
| NOAEL | : | 600 mg/kg |
| Application Route | : | Skin contact |
| Exposure time | : | 3 Weeks |

**Aspiration toxicity**

Not classified based on available information.

**Components:**

**Titanium dioxide:**

No aspiration toxicity classification

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**2-Butoxyethanol:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 1,464 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 1,800 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): 1,840 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br><br>EC10 (Pseudokirchneriella subcapitata (green algae)): 679 mg/l<br>Exposure time: 72 h |

| | | |
|---|---|---|
| | | Method: OECD Test Guideline 201 |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Danio rerio (zebra fish)): > 100 mg/l<br>Exposure time: 21 d |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | EC10 (Daphnia magna (Water flea)): 134 mg/l<br>Exposure time: 21 d<br>Method: OECD Test Guideline 211 |

**2-(2-Butoxyethoxy)ethanol:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Lepomis macrochirus (Bluegill sunfish)): 1,300 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 201<br><br>NOEC (Desmodesmus subspicatus (green algae)): >= 100 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : | EC10: > 1,995 mg/l<br>Exposure time: 30 min |

**2-Dimethylaminoethanol:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Leuciscus idus (Golden orfe)): 146.63 mg/l<br>Exposure time: 96 h<br>Test substance: Neutralized product<br>Method: DIN 38412 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 98.37 mg/l<br>Exposure time: 48 h<br>Method: Directive 67/548/EEC, Annex V, C.2. |
| Toxicity to algae/aquatic plants | : | ErC50 (Desmodesmus subspicatus (green algae)): 66.08 mg/l<br>Exposure time: 72 h<br><br>EC10 (Desmodesmus subspicatus (green algae)): 24.49 mg/l<br>Exposure time: 72 h |
| Toxicity to microorganisms | : | EC10 (Pseudomonas putida): 273.8 mg/l<br>Exposure time: 17 h<br>Method: DIN 38 412 Part 8 |

**Titanium dioxide:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Fish): > 1,000 mg/l<br>Exposure time: 96 h |

| | | |
|---|---|---|
| | | Method: OECD Test Guideline 203<br><br>LC50 (Marine species): > 10,000 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia sp. (Water flea)): > 1,000 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202<br><br>EC50 (No species specified): > 1,000 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br><br>EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l<br>Exposure time: 72 h<br>Method: ISO 10253<br><br>NOEC (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l<br>Exposure time: 3 d<br>Method: OECD Test Guideline 201<br><br>NOEC (Skeletonema costatum (marine diatom)): 5,600 mg/l<br>Exposure time: 3 d<br>Method: ISO 10253 |

**Methacrylic acid:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 85 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 130 mg/l<br>Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): 45 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br><br>NOEC (Pseudokirchneriella subcapitata (green algae)): 8.2 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Danio rerio (zebra fish)): 10 mg/l<br>Exposure time: 35 d<br>Method: OECD Test Guideline 210 |

| | | |
|---|---|---|
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): > 53 mg/l<br>Exposure time: 21 d<br>Method: OECD Test Guideline 211 |
| Toxicity to microorganisms | : | EC50 (Pseudomonas putida): 270 mg/l<br>Exposure time: 17 h<br>Method: DIN 38 412 Part 8 |

**Persistence and degradability**

**Components:**

**Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - 1200):**

| | | |
|---|---|---|
| Biodegradability | : | Result: Not readily biodegradable.<br>Biodegradation: 5 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301F |

**2-Butoxyethanol:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 90.4 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301B |

**2-(2-Butoxyethoxy)ethanol:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 85 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301C |

**2-Dimethylaminoethanol:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 60.5 %<br>Exposure time: 14 d<br>Method: OECD Test Guideline 301C |

**Methacrylic acid:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 86 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301D |

**Bioaccumulative potential**

**Components:**

**2-Butoxyethanol:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 0.81 |

**2-(2-Butoxyethoxy)ethanol:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 1 |

**2-Dimethylaminoethanol:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: -0.55 |

**Titanium dioxide:**

| | | |
|---|---|---|
| Bioaccumulation | : | Species: Oncorhynchus mykiss (rainbow trout)<br>Bioconcentration factor (BCF): 352 |

**Methacrylic acid:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 0.93 |

**Mobility in soil**

No data available

**Other adverse effects**

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

| | | |
|---|---|---|
| Waste from residues | : | Dispose of in accordance with local regulations.<br>Do not dispose of waste into sewer. |
| Contaminated packaging | : | Empty containers should be taken to an approved waste handling site for recycling or disposal.<br>If not otherwise specified: Dispose of as unused product. |

## SECTION 14. TRANSPORT INFORMATION

**International Regulations**

**UNRTDG**
Not regulated as a dangerous good

**IATA-DGR**
Not regulated as a dangerous good

**IMDG-Code**
Not regulated as a dangerous good

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

Not applicable for product as supplied.

**Domestic regulation**

**49 CFR**
Not regulated as a dangerous good

**Special precautions for user**
Not applicable

## SECTION 15. REGULATORY INFORMATION

**CERCLA Reportable Quantity**
Listed substances in the product are at low enough levels to not be expected to exceed the RQ

**SARA 304 Extremely Hazardous Substances Reportable Quantity**
Listed substances in the product are at low enough levels to not be expected to exceed the RQ

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**
This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Respiratory or skin sensitization
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

| | | |
|---|---|---|
| 2-Butoxyethanol | 111-76-2 | >= 5 - < 10 % |
| 2-(2-Butoxyethoxy)ethanol | 112-34-5 | >= 1 - < 5 % |
| Lead | 7439-92-1 | < 0.1 % |

**Volatile organic compounds (VOC) content**
VOC content: 303.77 g/l
Remarks: less exempt

VOC content: 125.7 g/l
Remarks: as packaged

**US State Regulations**

**Pennsylvania Right To Know**

| | |
|---|---|
| Water | 7732-18-5 |
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight >700 - 1200) | 25068-38-6 |
| 2-Butoxyethanol | 111-76-2 |
| Fluoropolymer | Trade secret |
| 2-(2-Butoxyethoxy)ethanol | 112-34-5 |
| 2-Dimethylaminoethanol | 108-01-0 |
| Titanium dioxide | 13463-67-7 |
| Methacrylic acid | 79-41-4 |

| | |
|---|---|
| Benzoic acid | 65-85-0 |
| Resin acids and Rosin acids, zinc salts | 9010-69-9 |
| Aluminum oxide | 1344-28-1 |
| Formaldehyde | 50-00-0 |

**California Prop. 65**

WARNING: This product can expose you to chemicals including Titanium dioxide, which is/are known to the State of California to cause cancer, and
Lead, which is/are known to the State of California to cause birth defects or other reproductive harm.
For more information go to www.P65Warnings.ca.gov.

**California List of Hazardous Substances**

| | |
|---|---|
| 2-Butoxyethanol | 111-76-2 |
| Methacrylic acid | 79-41-4 |

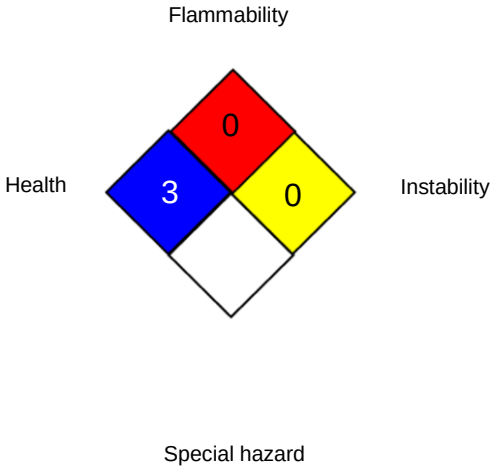
**California Permissible Exposure Limits for Chemical Contaminants**

| | |
|---|---|
| 2-Butoxyethanol | 111-76-2 |
| Titanium dioxide | 13463-67-7 |
| Methacrylic acid | 79-41-4 |

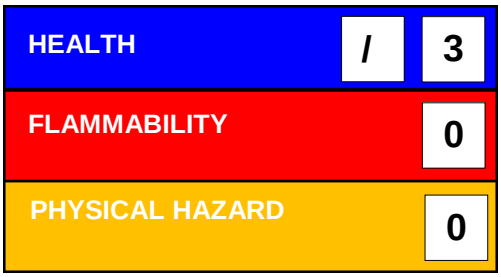
## SECTION 16. OTHER INFORMATION

**Further information**

**NFPA 704:**




**HMIS® IV:**




HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

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**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH BEI | : | ACGIH - Biological Exposure Indices (BEI) |
| NIOSH REL | : | USA. NIOSH Recommended Exposure Limits |
| OSHA CARC | : | OSHA Specifically Regulated Chemicals/Carcinogens |

| | | |
|---|---|---|
| OSHA Z-1 | : | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| OSHA Z-2 | : | USA. Occupational Exposure Limits (OSHA) - Table Z-2 |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| ACGIH / STEL | : | Short-term exposure limit |
| ACGIH / C | : | Ceiling limit |
| NIOSH REL / TWA | : | Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek |
| NIOSH REL / ST | : | STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday |
| NIOSH REL / C | : | Ceiling value not be exceeded at any time. |
| OSHA CARC / PEL | : | Permissible exposure limit (PEL) |
| OSHA CARC / STEL | : | Excursion limit |
| OSHA Z-1 / TWA | : | 8-hour time weighted average |
| OSHA Z-2 / TWA | : | 8-hour time weighted average |

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

| | | |
|---|---|---|
| Sources of key data used to compile the Material Safety Data Sheet | : | Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/ |

Revision Date : 11/05/2024

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8