# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

# TalonCoat

Version number: 1.0 Date of compilation: 05/23/2023

## SECTION 1: Identification

### 1.1 Product identifier

Trade name **TalonCoat**

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

Relevant identified uses General Use

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

Talon Completions, LLC
1006 W Missouri Ave
Midland, TX 79701-6632

575-552-2002
e-mail: sds@TalonCompletions.com
Website: TalonCompletions.com

### 1.4 Emergency Telephone Number

Emergency Information Service
1-800-633-8253 (USA & Canada) or 001-1-801-629- 0667 (International)

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## SECTION 2: Hazard(s) identification

### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

| Section | Hazard class | Category | Hazard class and category | Hazard state-ment |
|---|---|---|---|---|
| A.2 | skin corrosion/irritation | 2 | Skin Irrit. 2 | H315 |
| A.3 | serious eye damage/eye irritation | 2A | Eye Irrit. 2A | H319 |
| A.4S | skin sensitization | 1 | Skin Sens. 1 | H317 |
| A.6 | carcinogenicity | 2 | Carc. 2 | H351 |
| B.6 | flammable liquid | 3 | Flam. Liq. 3 | H226 |

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

## 2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word **Warning**

- Pictograms

GHS02, GHS07, GHS08 

- Hazard statements

| | |
|---|---|
| H226 | Flammable liquid and vapor. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |

- Precautionary statements

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ventilating/lighting equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray. |
| P272 | Contaminated work clothing must not be allowed out of the workplace. |
| P280 | Wear protective gloves/eye protection/face protection. |
| P302+P352 | If on skin: Wash with plenty of water. |
| P303+P361+P353 | If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| P305+P351+P338 | If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P313 | If exposed or concerned: Get medical advice/attention. |
| P321 | Specific treatment (see on this label). |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P363 | Wash contaminated clothing before reuse. |
| P370+P378 | In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container to industrial combustion plant. |

- Hazardous ingredients for labelling p-chlorobenzotrifluoride, Ambient Curable Refractory Resin

## 2.3 Other hazards

Hazards not otherwise classified

Very toxic to aquatic life with long lasting effects (GHS category 1: aquatic toxicity - acute and/or chronic).

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0.1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0.1%.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

Description of the mixture

| Name of substance | Identifier | Wt% |
|---|---|---|
| p-chlorobenzotrifluoride | CAS No<br>98-56-6 | 50 – < 75 |
| Ambient Curable Refractory Resin | CAS No<br>Trade Secret | 10 – < 25 |
| 2-butanol | CAS No<br>78-92-2 | 1 – < 5 |

For full text of abbreviations: see SECTION 16.

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

General notes

Do not leave the affected person unattended. Remove victim out of the danger area. Keep the affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance, and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

### 4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

### 4.3 Indication of any immediate medical attention and special treatment needed

none

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

### 5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g., unventilated below ground level areas such as trenches, conduits, and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface, and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g., cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapors into cellars, flues, and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- Specific notes/details

Places which are not ventilated, e.g., unventilated below ground level areas such as trenches, conduits, and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along

floors and form explosive mixtures with air. Vapors may form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink, and animal feeding stuff.

### 7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

- Ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

- Packaging compatibilities

Only packaging which is approved (e.g., acc. to the Dangerous Goods Regulations) may be used.

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

| Country | Name of substance | Identifier | TWA [ppm] | TWA [mg/m³] | STEL [ppm] | STEL [mg/m³] | Ceiling-C [ppm] | Ceiling-C [mg/m³] | Notation | Source |
|---|---|---|---|---|---|---|---|---|---|---|
| US | Metal Modifier | REL | | | | | | | appx-D | NIOSH REL |
| US | Metal Modifier | PEL | | 15 | | | | | i, dust | 29 CFR 1910.1000 |
| US | Metal Modifier | PEL | | 5 | | | | | r, dust | 29 CFR 1910.1000 |
| US | Metal Modifier | TLV® | | 1 | | | | | r | ACGIH® 2023 |
| US | Metal Modifier | PEL (CA) | | 10 | | | | | dust | Cal/OSHA PEL |
| US | Metal Modifier | PEL (CA) | | 5 | | | | | r | Cal/OSHA PEL |
| US | 2-butanol | TLV® | 100 | | | | | | | ACGIH® 2023 |
| US | 2-butanol | PEL (CA) | 100 | 305 | | | | | | Cal/OSHA PEL |
| US | 2-butanol | REL | 100 (10 h) | 305 (10 h) | 150 | 455 | | | | NIOSH REL |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| US | 2-butanol | PEL | 150 | 450 | | | | | | 29 CFR 1910.1000 |

Notation

| | |
|---|---|
| appx-D | see Appendix D - Substances with No Established RELs |
| Ceiling-C | ceiling value is a limit value above which exposure should not occur |
| dust | as dust |
| i | inhalable fraction |
| r | respirable fraction |
| STEL | short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified) |
| TWA | time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours' time-weighted average (unless otherwise specified |

Relevant DNELs of components of the mixture

| Name of substance | CAS No | Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
|---|---|---|---|---|---|---|
| p-chlorobenzotrifluoride | 98-56-6 | DNEL | 0.029 mg/m³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| p-chlorobenzotrifluoride | 98-56-6 | DNEL | 0.017 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |
| p-chlorobenzotrifluoride | 98-56-6 | DNEL | 17.6 µg/cm² | human, dermal | worker (industry) | acute - local effects |
| 2-butanol | 78-92-2 | DNEL | 600 mg/m³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| 2-butanol | 78-92-2 | DNEL | 405 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |

Relevant PNECs of components of the mixture

| Name of substance | CAS No | Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
|---|---|---|---|---|---|---|
| p-chlorobenzotrifluoride | 98-56-6 | PNEC | 2 µg/l | aquatic organisms | freshwater | short-term (single instance) |
| p-chlorobenzotrifluoride | 98-56-6 | PNEC | 0.2 µg/l | aquatic organisms | marine water | short-term (single instance) |
| p-chlorobenzotrifluoride | 98-56-6 | PNEC | 0.032 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| p-chlorobenzotrifluoride | 98-56-6 | PNEC | 0.022 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| p-chlorobenzotrifluoride | 98-56-6 | PNEC | 0.002 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |
| p-chlorobenzotrifluoride | 98-56-6 | PNEC | 0.026 mg/kg | terrestrial organisms | soil | short-term (single instance) |
| 2-butanol | 78-92-2 | PNEC | 47.1 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| 2-butanol | 78-92-2 | PNEC | 47.1 mg/l | aquatic organisms | marine water | short-term (single instance) |
| 2-butanol | 78-92-2 | PNEC | 761 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| 2-butanol | 78-92-2 | PNEC | 196.2 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2-butanol | 78-92-2 | PNEC | 196.2 $^{mg}/_{kg}$ | aquatic organisms | marine sediment | short-term (single instance) |
| 2-butanol | 78-92-2 | PNEC | 11.58 $^{mg}/_{kg}$ | terrestrial organisms | soil | short-term (single instance) |

### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate containers to avoid environmental contamination. Keep away from drains, surface, and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance**

| | |
|---|---|
| Physical state | liquid |
| Color | not determined |
| Particle | not relevant (liquid) |
| Odor | characteristic |

**Other safety parameters**

| | |
|---|---|
| pH (value) | not determined |
| Melting point/freezing point | not determined |
| Initial boiling point and boiling range | >133.8 °C at 1 atm |
| Flash point | 31 °C |
| Evaporation rate | not determined |

| | |
|---|---|
| Flammability (solid, gas) | not relevant, (fluid) |
| Vapor pressure | 1.1 Pa at 25 °C |
| Density | not determined |
| Vapor density | this information is not available |
| Relative density | information on this property is not available |
| Solubility(ies) | not determined |

Partition coefficient

| | |
|---|---|
| - n-octanol/water (log KOW) | this information is not available |
| Auto-ignition temperature | 236 °C |
| Viscosity | not determined |
| Explosive properties | none |
| Oxidizing properties | none |

### 9.2 Other information

| | |
|---|---|
| Temperature class (USA, acc. to NEC 500) | T2C (maximum permissible surface temperature on the equipment: 230°C) |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains re- active substance(s). Risk of ignition.

If heated:

Risk of ignition

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

### 10.5 Incompatible materials

Oxidizers

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced because of use, storage, spill, and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

| Name of substance | CAS No | Classification | Number |
|---|---|---|---|
| p-chlorobenzotrifluoride | 98-56-6 | 2B | |

Legend
2B Possibly carcinogenic to humans

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## SECTION 12: Ecological information

### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture

| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
|---|---|---|---|---|---|
| p-chlorobenzotrifluoride | 98-56-6 | LC50 | 6.5 $^{mg}/_{l}$ | fish | 24 h |

| | | | | | |
|---|---|---|---|---|---|
| p-chlorobenzotrifluoride | 98-56-6 | ErC50 | >0.41 mg/l | algae | 72 h |
| p-chlorobenzotrifluoride | 98-56-6 | EC50 | >0.41 mg/l | algae | 72 h |
| 2-butanol | 78-92-2 | LC50 | 2,993 mg/l | fish | 96 h |
| 2-butanol | 78-92-2 | EC50 | 308 mg/l | aquatic invertebrates | 48 h |
| 2-butanol | 78-92-2 | ErC50 | 2,029 mg/l | algae | 96 h |

Aquatic toxicity (chronic) of components of the mixture

| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
|---|---|---|---|---|---|
| p-chlorobenzotrifluoride | 98-56-6 | EC50 | 242.1 mg/l | microorganisms | 30 min |

### 12.2 Persistence and degradability

Data is not available.

### 12.3 Bioaccumulative potential

Data is not available.

### 12.4 Mobility in soil

Data is not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0.1%.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0.1%.

### 12.7 Other adverse effects

Data is not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Only packaging which is approved (e.g., acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

**Remarks**

Please consider the relevant national or regional provisions. Waste shall be separated into categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number

| | |
|---|---|
| DOT | UN 1993 |
| IMDG-Code | UN 1993 |
| ICAO-TI | UN 1993 |

### 14.2 UN proper shipping name

| | |
|---|---|
| DOT | Flammable liquid, n.o.s. |
| IMDG-Code | FLAMMABLE LIQUID, N.O.S. |
| ICAO-TI | Flammable liquid, n.o.s. |
| Technical name (hazardous ingredients) | p-chlorobenzotrifluoride, 2-butanol |

### 14.3 Transport hazard class(es)

| | |
|---|---|
| DOT | 3 |
| IMDG-Code | 3 |
| ICAO-TI | 3 |

### 14.4 Packing group

| | |
|---|---|
| DOT | III |
| IMDG-Code | III |
| ICAO-TI | III |

### 14.5 Environmental hazards

hazardous to the aquatic environment

| | |
|---|---|
| Environmentally hazardous substance (aquatic environment) | p-chlorobenzotrifluoride |

### 14.6 Special precautions for user

There is no additional information.

### 14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

**Information for each of the UN Model Regulations**

**Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information**

| | |
|---|---|
| Particulars in the shipper's declaration | UN1993, Flammable liquid, n.o.s., (contains p-chlorobenzotrifluoride, 2-butanol), 3, III, environmentally hazardous |
| Reportable quantity (RQ) | 8,333,333 lbs (3,783,333 kg) (Methanol) (n-butyl alcohol) |
| Danger label(s) | 3, fish and tree |

| | |
|---|---|
| Environmental hazards | yes (hazardous to the aquatic environment) |
| Special provisions (SP) | B1, B52, IB3, T4, TP1, TP29 |
| ERG No | 128 |

**International Maritime Dangerous Goods Code (IMDG) - Additional information**

| | |
|---|---|
| Marine pollutant | yes (hazardous to the aquatic environment) (p-chlorobenzotrifluoride) |
| Danger label(s) | 3, fish and tree |

| | |
|---|---|
| Special provisions (SP) | 223, 274, 955 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |
| EmS | F-E, S-E |
| Stowage category | A |

**International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

| | |
|---|---|
| Environmental hazards | yes (hazardous to the aquatic environment) |
| Danger label(s) | 3 |

| | |
|---|---|
| Special provisions (SP) | A3 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 10 L |

## SECTION 15: Regulatory information

### 15.1 Safety, health, and environmental regulations specific for the product in question

**National regulations (United States)**

**Toxic Substance Control Act (TSCA)** all ingredients are listed (ACTIVE)

**Superfund Amendment and Reauthorization Act (SARA TITLE III)**

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

| Toxics Release Inventory: Specific Toxic Chemical Listings | | | |
|---|---|---|---|
| **Name of substance** | **CAS No** | **Remarks** | **Effective date** |
| 2-butanol | 78-92-2 | | 12/31/1986 |

**Clean Air Act**

none of the ingredients are listed

**Right to Know Hazardous Substance List**

- Toxic or Hazardous Substance List (MA-TURA)

| Name of substance | CAS No | DEP CODE | PBT / HHS / LHS | PBT / HHS Threshold | De Minimis Concentration Threshold |
|---|---|---|---|---|---|
| 2-butanol | 78-92-2 | | LHS | | 1.0 % |

- Hazardous Substances List (MN-ERTK)

| Name of substance | CAS No | References | Remarks |
|---|---|---|---|
| 2-butanol | 78-92-2 | A, O | |

Legend

A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH

O Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part 1910, subpart Z, "Toxic and Hazardous Substances, 1990." General information: Minnesota Department of Labor and Industry, Occupational Safety and Health Division

- Hazardous Substance List (NJ-RTK)

| Name of substance | CAS No | Remarks | Classifications |
|---|---|---|---|
| 2-butanol | 78-92-2 | | F3 |

Legend

F3 Flammable - Third Degree

- Hazardous Substance List (Chapter 323) (PA-RTK)

| Name acc. to inventory | CAS No | Classification |
|---|---|---|
| 2-BUTANOL | 78-92-2 | E |

Legend

E Environmental hazard

- Hazardous Substance List (RI-RTK)

| Name of substance | CAS No | References |
|---|---|---|
| 2-butanol | 78-92-2 | T, F |

Legend

F Flammability (NFPA®)

T Toxicity (ACGIH®)

### California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Proposition 65 List of chemicals

| Name acc. to inventory | CAS No | Remarks | Type of the toxicity |
|---|---|---|---|
| p-chloro-α,α,α-trifluorotoluene (para-Chlorobenzotrifluoride, PCBTF) | 98-56-6 | | cancer |

### Industry or sector specific available guidance(s)

### NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

| Category | Degree of hazard | Description |
|---|---|---|
| Flammability | 3 | material that can be ignited under almost all ambient temperature conditions |
| Health | 2 | material that, under emergency conditions, can cause temporary incapacitation or residual injury |
| Instability | 0 | material that is normally stable, even under fire conditions |
| Special hazard | | |

### National inventories

| Country | Inventory | Status |
|---|---|---|
| AU | AIIC | all ingredients are listed |
| CA | DSL | all ingredients are listed |
| CN | IECSC | all ingredients are listed |
| EU | ECSI | all ingredients are listed |
| EU | REACH Reg. | all ingredients are listed |
| JP | CSCL-ENCS | all ingredients are listed |
| JP | ISHA-ENCS | not all ingredients are listed |
| KR | KECI | all ingredients are listed |
| MX | INSQ | not all ingredients are listed |
| NZ | NZIoC | all ingredients are listed |
| PH | PICCS | all ingredients are listed |
| TR | CICR | not all ingredients are listed |
| TW | TCSI | all ingredients are listed |
| US | TSCA | all ingredients are listed (ACTIVE) |

Legend

| | |
|---|---|
| AIIC | Australian Inventory of Industrial Chemicals |
| CICR | Chemical Inventory and Control Regulation |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| ISHA-ENCS | Inventory of Existing and New Chemical Substances (ISHA-ENCS) |
| KECI | Korea Existing Chemicals Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

## 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information, including date of preparation or last revision

### Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|---|---|
| 29 CFR 1910.1000 | 29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits) |
| 49 CFR US DOT | 49 CFR U.S. Department of Transportation |
| ACGIH® | American Conference of Governmental Industrial Hygienists |
| ACGIH® 2023 | From ACGIH®, 2023 TLVs® and BEIs® Book. Copyright 2023. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement |
| Cal/OSHA PEL | California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| DEP CODE | Department of Environmental Protection Code |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| DOT | Department of Transportation (USA) |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g., on growth) during a specified time interval |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| ErC50 | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| ERG No | Emergency Response Guidebook - Number |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| HHS | Higher hazard substance |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| ICAO-TI | Technical instructions for the safe transport of dangerous goods by air |
| IMDG | International Maritime Dangerous Goods Code |
| IMDG-Code | International Maritime Dangerous Goods Code |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LHS | Lower hazard substance |
| NFPA® | National Fire Protection Association (United States) |

| Abbr. | Descriptions of used abbreviations |
|---|---|
| NIOSH REL | National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs) |
| NLP | No-Longer Polymer |
| OSHA | Occupational Safety and Health Administration (United States) |
| PBT | Persistent, Bioaccumulative and Toxic |
| PEL | Permissible exposure limit |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| STEL | Short-term exposure limit |
| TLV® | Threshold Limit Values |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |

## Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for air transport (IATA).

## Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

## List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|---|---|
| H226 | Flammable liquid and vapor. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |

## Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.