# Safety Data Sheet

日本

## 1. Product and company identification

**Product name** **CDM4PERMAb™ Recommended additions: 3.2 g/L Sodium Bicarbonate, 0.5 g/L Poloxamer 188, 4 mM L-Glutamine**

**Catalogue Number** SH30872.05

**Product type** Powder.

**Original preparation date** 2/17/2026

**Date of issue/Date of revision** 2/17/2026

**Date of previous issue** No previous validation

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

For Further Manufacturing or Research Use. Not for Diagnostic or Therapeutic Use.

Supplier / Manufacturer

Cytiva Austria
Kremplstr. 5
4061 Pasching
AUSTRIA
Tel. (+43) 7229 64865
Fax (+43) 7229 64866

HyClone Laboratories
925 West 1800 South
Logan, Utah 84321
Phone: (435) 792-8000

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グローバルライフサイエンステクノロジーズジャパン株式会社
新宿区百人町三丁目25番1号
サンケンビルヂング
東京都
169-0073
日本
+81-(0)3-5331-9336

Cytiva Singapore
1 Maritime Square #13-01
Harbourfront Centre
Singapore 099253

## 2. Hazards identification

**GHS Classification**

CARCINOGENICITY - Category 1A
TOXIC TO REPRODUCTION - Category 1A
HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 3
HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC HAZARD - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 44%

GHS label elements

**Hazard pictograms**

**Signal word** Danger

**Hazard statements**

May cause cancer.
May damage fertility or the unborn child.
Harmful to aquatic life with long lasting effects.

Precautionary statements

**General**

| | |
|---|---|
| **Prevention** | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Avoid release to the environment. |
| **Response** | IF exposed or concerned: Get medical advice or attention. |
| **Storage** | Store locked up. |
| **Disposal** | Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| **Other hazards which do not result in classification** | May form explosible dust-air mixture if dispersed. |

## 3. Composition/information on ingredients

**Substance/mixture** Mixture

| Ingredient name | 含有量(%) | Identifiers | Official Gazette notice reference number | |
|---|---|---|---|---|
| | | | CSCL | ISHL |
| sodium chloride | 30.156 - 30.156 | CAS: 7647-14-5 | 1-236 | Not available. |
| potassium chloride | <3.7 | CAS: 7447-40-7 | 1-228 | (1)-228 |
| L-serine | <2.55 | CAS: 56-45-1 | 9-1585 | Not available. |
| L-valine | <1.6 | CAS: 72-18-4 | 9-1604 | Not available. |
| Ethanol | <0.4 | CAS: 64-17-5 | 2-202 | (2)-202 |
| Copper(II) sulfate, pentahydrate | <0.02 | CAS: 7758-99-8 | 1-300 | Not available. |
| Copper chloride (CuCl2), dihydrate | <0.005 | CAS: 10125-13-0 | 1-210 | Not available. |

## 4. First aid measures

| | |
|---|---|
| **Inhalation** | Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| **Skin contact** | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| **Eye contact** | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |
| **Ingestion** | Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |

Most important symptoms/effects, acute and delayed

Potential acute health effects

| | |
|---|---|
| **Inhalation** | Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. |
| **Skin contact** | No known significant effects or critical hazards. |
| **Eye contact** | Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes. |
| **Ingestion** | No known significant effects or critical hazards. |

**Short term exposure**

| | |
|---|---|
| **Potential delayed effects** | Not available. |

Over-exposure signs/symptoms

| | |
|---|---|
| **Inhalation** | Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing<br>reduced fetal weight<br>increase in fetal deaths<br>skeletal malformations |

| | |
|---|---|
| **Skin contact** | Adverse symptoms may include the following:<br>reduced fetal weight<br>increase in fetal deaths<br>skeletal malformations |
| **Eye contact** | Adverse symptoms may include the following:<br>irritation<br>redness |
| **Ingestion** | Adverse symptoms may include the following:<br>reduced fetal weight<br>increase in fetal deaths<br>skeletal malformations |
| **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. |
| **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. |

## 5. Fire-fighting measures

| | |
|---|---|
| **Suitable extinguishing media** | Use dry chemical powder. |
| **Unsuitable extinguishing media** | Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture. |
| **Specific hazards arising from the chemical** | May form explosible dust-air mixture if dispersed. This material is harmful 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. |
| **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. |

## 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 dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| **For emergency responders** | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| **Environmental precautions** | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. |

Methods and materials for containment and cleaning up

| | |
|---|---|
| **Small spill** | Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. |
| **Large spill** | 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. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. |

## 7. Handling and storage

**Handling**

| | |
|---|---|
| **Protective measures** | Put on appropriate personal protective equipment (see Section 8). 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 ingest. Avoid breathing dust. Avoid release to the environment. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring |

material. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Storage**

**Conditions for safe storage** Store between the following temperatures: 2 to 8°C (35.6 to 46.4°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. See Section 10 for incompatible materials before handling or use.

## 8. Exposure controls/personal protection

**Appropriate engineering controls** Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, 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.

Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Copper(II) sulfate, pentahydrate | **Japan Society for Occupational Health (Japan, 5/2024) [Copper and compounds]** Skin sensitizer. |
| Copper chloride (CuCl2), dihydrate | **Japan Society for Occupational Health (Japan, 5/2024) [Copper and compounds]** Skin sensitizer. |

**Biological exposure indices**

No exposure indices known.

Individual protection measures

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

**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.

**Eye protection** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.

**Skin 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. 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.

## 9. Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Solid. [Powder.] |
| **Color** | White. to Off-white. |
| **Odor** | Not available. |
| **Odor threshold** | Not available. |
| **pH** | 5 to 7 [Conc. (% w/w): 1.7%] |
| **Melting point/freezing point** | Not available. |
| **Boiling point or initial boiling point and boiling range** | Not available. |
| **Flash point** | Not applicable. |
| **Evaporation rate** | Not available. |
| **Flammability** | Not available. |
| **Lower and upper explosive (flammable) limits** | Not applicable. |
| **Vapor pressure** | Not available. |
| **Relative vapor density** | Not applicable. |

| | |
|---|---|
| **Relative density** | Not available. |
| **Solubility in water** | Not available. |
| **Partition coefficient: n-octanol/ water** | Not applicable. |
| **Auto-ignition temperature** | Not applicable. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Dynamic (room temperature): Not available.<br>Kinematic (room temperature): Not available.<br>Kinematic (40°C (104°F)): Not available. |
| **Particle characteristics** | |
| **Median particle size** | Not available. |
| **SADT** | Not available. |
| **Viscosity** | Dynamic (room temperature): Not available.<br>Kinematic (room temperature): Not available.<br>Kinematic (40°C (104°F)): Not available. |
| **Flow time (ISO 2431)** | Not available. |
| **Burning rate** | Not available. |
| **Burning time** | Not available. |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | No specific test data related to reactivity available for this product or its ingredients. |
| **Chemical stability** | The product is stable. |
| **Possibility of hazardous reactions** | Under normal conditions of storage and use, hazardous reactions will not occur. |
| **Conditions to avoid** | Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation. |
| **Incompatible materials** | Reactive or incompatible with the following materials:<br>oxidizing materials |
| **Hazardous decomposition products** | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

## 11. Toxicological information

**Acute toxicity**

| Product/ingredient name | Result |
|---|---|
| potassium chloride | **Rat - Male - Oral - LD50**<br>2600 mg/kg<br>Toxic effects: Gastrointestinal - Hypermotility, diarrhea Gastrointestinal - Nausea or vomiting |
| L-serine | **Rat - Oral - LD50**<br>14 g/kg |
| L-valine | **Rat - Oral - LD50**<br>2000 mg/kg |
| Ethanol | **Rat - Oral - LD50**<br>7060 mg/kg<br>Toxic effects: Lung, Thorax, or Respiration - Other changes<br>**Rat - Inhalation - LC50 Vapor**<br>124700 mg/m³ [4 hours] |
| Copper(II) sulfate, pentahydrate | **Rat - Oral - LD50**<br>300 mg/kg |

**Acute toxicity estimates**

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|---|---|---|---|---|
| CDM4PERMAb™ | 29095.9 | 102148.1 | N/A | N/A | N/A |
| potassium chloride | 2600 | N/A | N/A | N/A | N/A |
| L-serine | 14000 | N/A | N/A | N/A | N/A |
| L-valine | 2000 | N/A | N/A | N/A | N/A |
| Ethanol | 7000 | N/A | N/A | 124.7 | N/A |
| Copper(II) sulfate, pentahydrate | 500 | N/A | N/A | N/A | N/A |

**Skin corrosion/irritation**

Not available.

**Conclusion/Summary [Product]** Not available.

| Ingredient name | Conclusion/Summary |
|---|---|
| L-serine | May cause skin irritation. |
| L-valine | May cause skin irritation. |

**Serious eye damage/eye irritation**

Not available.

**Conclusion/Summary [Product]** Not available.

| Ingredient name | Conclusion/Summary |
|---|---|
| L-serine | May cause eye irritation. |
| L-valine | May cause eye irritation. |

**Respiratory corrosion/irritation**

Not available.

**Conclusion/Summary [Product]** Not available.

**Respiratory or skin sensitization**

Not available.

**Skin**

**Conclusion/Summary [Product]** Not available.

**Respiratory**

**Conclusion/Summary [Product]** Not available.

**Germ cell mutagenicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Carcinogenicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Reproductive toxicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Specific target organ toxicity (single exposure)**

| Product/ingredient name | Result |
|---|---|
| Ethanol | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 |
| Copper(II) sulfate, pentahydrate | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (blood system, kidneys, liver, nervous system, respiratory organs) - Category 1 |

**Specific target organ toxicity (repeated exposure)**

| Product/ingredient name | Result |
|---|---|
| Ethanol | SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 1<br>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 2 |
| Copper(II) sulfate, pentahydrate | SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system, kidneys, respiratory organs) - Category 1<br>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2 |

**Aspiration hazard**

Not available.

## 12. Ecological information

Toxicity

| Product/ingredient name | Result |
|---|---|
| sodium chloride | **Acute - LC50 - Fresh water**<br>Fish - Striped bass - *Morone saxatilis* - Larvae<br>1000 mg/l [96 hours]<br>Effect: Mortality<br>**Chronic - NOEC - Fresh water**<br>Daphnia - Water flea - *Daphnia pulex*<br>0.314 g/l [21 days]<br>Effect: Reproduction<br>**Chronic - NOEC - Fresh water**<br>Fish - Eastern mosquitofish - *Gambusia holbrooki* - Adult<br>100 mg/l [8 weeks]<br>Effect: Reproduction<br>**Chronic - NOEC - Fresh water**<br>OECD<br>Aquatic plants - Duckweed - *Lemna minor*<br>6 g/l [96 hours]<br>Effect: Growth<br>**Acute - EC50 - Fresh water**<br>Daphnia - Water flea - *Daphnia magna*<br>402.6 mg/l [48 hours]<br>Effect: Intoxication<br>**Acute - EC50 - Fresh water**<br>Algae - Green algae - *Selenastrum capricornutum*<br>28.85 mg/dm³ [72 hours]<br>Effect: Population |
| potassium chloride | **Acute - LC50 - Fresh water**<br>Crustaceans - Water flea - *Pseudosida ramosa* - Neonate<br>Age: ≤24 hours<br>9.68 mg/l [48 hours]<br>Effect: Mortality<br>**Acute - EC50 - Fresh water**<br>ISO<br>Algae - Green algae - *Desmodesmus subspicatus*<br>9.24 g/l [72 hours]<br>Effect: Population<br>**Acute - LC50 - Fresh water**<br>Fish - Zebra danio - *Danio rerio*<br>509.65 mg/l [96 hours]<br>Effect: Mortality |
| L-serine | **Acute - EC50**<br>Daphnia<br>83 mg/l [48 hours]<br>**Acute - NOEC**<br>Algae<br>1000 mg/l [72 hours] |
| L-valine | **LC50**<br>Fish<br>10000 mg/l [96 hours] |
| Ethanol | **Acute - LC50 - Marine water**<br>Fish - Bleak - *Alburnus alburnus*<br>Size: 8 to 10 cm<br>11 g/l [96 hours]<br>Effect: Mortality<br>**Chronic - NOEC - Marine water**<br>Algae - Green algae - *Ulva pertusa*<br>4.995 mg/l [96 hours]<br>Effect: Reproduction<br>**Acute - EC50 - Fresh water**<br>Crustaceans - Ostracod - *Cypris subglobosa*<br>1074 mg/l [48 hours]<br>Effect: Intoxication<br>**Chronic - NOEC - Fresh water**<br>Daphnia - Water flea - *Daphnia magna* - Neonate<br>Age: <24 hours<br>100 µl/l [21 days]<br>Effect: Mortality<br>**Acute - EC50 - Marine water**<br>Algae - Green algae - *Ulva pertusa*<br>Size: 9.4 mm<br>3306 mg/l [96 hours]<br>Effect: Reproduction |
| Copper(II) sulfate, pentahydrate | **Acute - EC50 - Fresh water** |

| | |
|---|---|
| | US EPA<br>Daphnia - Water flea - *Daphnia magna*<br>Age: 1<br>182 ppb [48 hours]<br>Effect: Intoxication |
| | **Acute - LC50 - Fresh water**<br>US EPA<br>Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss*<br>Weight: 0.6 g<br>0.032 ppm [96 hours]<br>Effect: Mortality |
| Copper chloride (CuCl2), dihydrate | **Acute - EC50 - Marine water**<br>US EPA<br>Algae - Diatom - *Skeletonema costatum*<br>Age: 3 days<br>9.52 ppb [72 hours]<br>Effect: Population |
| | **Chronic - NOEC - Marine water**<br>US EPA<br>Crustaceans - Harpacticoid copepod - *Tisbe battagliai*<br>Age: <24 hours<br>18 ppb [21 days]<br>Effect: Mortality |

**Conclusion/Summary [Product]** Not available.

| Ingredient name | Conclusion/Summary |
|---|---|
| L-serine | Naturally occurring substance |
| L-valine | Naturally occurring substance |

Persistence/degradability

| Product/ingredient name | Result |
|---|---|
| L-valine | 82% [28 days] |
| Ethanol | **Aerobic**<br>100% [20 days] - Readily |

**Conclusion/Summary [Product]** Not available.

| Ingredient name | Conclusion/Summary |
|---|---|
| L-serine | Not expected to bioaccumulate. Naturally occurring substance |
| L-valine | Not expected to bioaccumulate. Naturally occurring substance |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| L-valine | - | - | Readily |
| Ethanol | - | - | Readily |

Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| L-serine | -3.07 | 0.609 | Low |
| L-valine | -2.26 | 0.846 | Low |
| Ethanol | -0.35 | 0.66 | Low |

Mobility in soil

**Soil/Water partition coefficient** Not available.

**Mobility** Not available.

**Hazardous to the ozone layer** Not applicable.

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

## 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 14. Transport information

| | UN | IMDG | IATA |
|---|---|---|---|
| **UN number** | Not regulated. | Not regulated. | Not regulated. |
| **UN proper shipping name** | - | - | - |
| **Transport hazard class (es)** | - | - | - |
| **Packing group** | - | - | - |
| **Environmental hazards** | No. | No. | No. |
| **Additional 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. |
| **Transport in bulk according to IMO instruments** | Not available. |

## 15. Regulatory information

**Fire Service Law**

None of the components are listed.

| | |
|---|---|
| **Fire Service Law - Obstructive materials** | Not listed |

**Industrial Safety and Health Act**

Ordinance on the Prevention of the Hazard due to Specified Chemical Substances

None of the components are listed.

| | |
|---|---|
| **Organic solvents poisoning prevention** | Not applicable. |

Substance(s) requiring labelling

| Ingredient name | % | Status | Reference number |
|---|---|---|---|
| ethanol | ≤10 | Listed | 61, 2-205 (2025-04) * |

* Any concentration shown as a range is to protect confidentiality.

Chemicals requiring notification

| Ingredient name | % | Status | Reference number |
|---|---|---|---|
| ethanol | ≤10 | Listed | 61, 2-205 (2025-04) * |

* Any concentration shown as a range is to protect confidentiality.

**Chemical substances that cause skin disorders, etc. and other chemical substances that must be handled with impermeable protective equipment etc. based on special chemical regulations. (Article 594-2 Paragraph 1 of Ordinance on ISH)**

None of the components are listed.

Carcinogens based on Article 577-2 of the Ordinance on ISH

None of the components are listed.

Mutagen

None of the components are listed.

| | |
|---|---|
| **Corrosive liquid** | Not listed |
| **ISHL Enforcement Order Appendix 1 - Dangerous Substances** | Inflammable |

| | |
|---|---|
| **Harmful Substances Subject to Obtaining Permission for Manufacturing** | Not listed |
| **Harmful Substances, Prohibited for Manufacturing** | Not listed |

**Chemical Substances Control Law (CSCL)**

None of the components are listed.

**Poisonous and Deleterious Substances**

None of the components are listed.

**Pollutant Release and Transfer Registers (PRTR)**

None of the components are listed.

| | |
|---|---|
| **JSOH Carcinogen** | Not listed |
| **Law concerning prevention of pollution of the ocean** | Not available. |
| **Road law** | Not available. |
| **List of Specially Controlled Industrial Waste** | Not listed |

**International regulations**

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**International lists**

**National inventory**

| | |
|---|---|
| **Japan** | **Japan inventory (CSCL)**: Not determined.<br>**Japan inventory (ISHL)**: Not determined. |
| **United States** | Not determined. |
| **Canada inventory** | Not determined. |
| **China** | Not determined. |

## 16. Other information

**History**

| | |
|---|---|
| **Date of printing** | 2/17/2026 |
| **Date of issue/Date of revision** | 2/17/2026 |
| **Date of previous issue** | No previous validation |
| **Version** | 1 |
| | sds_author@cytiva.com |
| | ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>N/A = Not available<br>UN = United Nations |

**Procedure used to derive the classification**

| Classification | Justification |
|---|---|
| CARCINOGENICITY - Category 1A | Calculation method |
| TOXIC TO REPRODUCTION - Category 1A | Calculation method |
| HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 3 | Calculation method |
| HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC HAZARD - Category 3 | Calculation method |

**References** Not available.

Indicates information that has changed from previously issued version.

**Notice to reader**

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