



Sylphium

molecular ecology

Material Safety Data Sheet

Precipitation buffer (S4)

May 10, 2023

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Version 1

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SECTION 1: Identification of the product and of the company

Product name: **Precipitation buffer (S4)**

Product number: SYL002-S4

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SECTION 2: Composition and information on ingredients

Isopropanol.

SECTION 3: Hazards identification

Classification according to Regulation (EC) No. 1272/2008 (CLP):

Flammable liquid **category 2**, skin irritation **category 2**, eye irritation **category 2A**, specific target organ toxicity – single exposure **category 3** (central nervous system).

Precautionary statements

- **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.
- **P264**: wash skin thoroughly after handling.
- **P280**: wear protective gloves/protective clothing/eye protection/face protection.
- **P303+P361+P353** (in case of skin or hair contact): take off all contaminated clothing immediately. Rinse skin with water/shower.
- **P305+P351+P338** (in case of eye contact): rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statements continued

- **P370+P378:** in case of fire: Use CO₂, dry chemical, or foam for extinction.
- **P403+P235:** Store in a well-ventilated place. Keep cool.
- **P501:** Dispose of contents/container in accordance with local, regional, national, and international regulations.

SECTION 4: First aid measures

First Aid instructions for exposure

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| Inhalation | Move to fresh air. If symptoms persist, call a physician. |
| Skin contact | Wash affected skin thoroughly with soap and water. If skin irritation or rash occurs, get medical advice/attention. |
| Eye contact | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention. |
| Ingestion | Rinse mouth with water. Do not induce vomiting. Call a physician or Poison Control Center immediately. |

SECTION 5: Fire-fighting measures

Fire hazards and safety information

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| Suitable extinguishing media | Carbon dioxide (CO ₂), dry chemical, or foam. |
| Special hazards arising from the substance or mixture | <ul style="list-style-type: none"> • Flammable liquid and vapor. • Containers may rupture or explode in the heat of a fire. |
| Advice for firefighters | <ul style="list-style-type: none"> • Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. • Cool containers and surrounding area with water spray. |

SECTION 6: Accidental safety measures

Safety measures and precautions

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| Personal precautions | <ul style="list-style-type: none"> • Use appropriate personal protective equipment as indicated in Section 8. • Evacuate personnel to safe areas. |
| Environmental precautions | <ul style="list-style-type: none"> • Prevent substance from entering sewers or water sources. |
| Cleanup procedures | <ul style="list-style-type: none"> • Absorb spill with inert material (e.g., sand, earth, vermiculite) and place in a suitable container for disposal. • Clean contaminated surfaces thoroughly with water and detergent. |

SECTION 7: Handling and storage

Storage and handling precautions

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| Handling | <ul style="list-style-type: none"> • Keep away from heat, sparks, open flames, and hot surfaces. No smoking. • Only use in well-ventilated areas. • Wear appropriate personal equipment as indicated in Section 8. |
| Storage | <ul style="list-style-type: none"> • Store in a cool, well-ventilated area away from incompatible materials. • Keep containers tightly closed. |

SECTION 8: Exposure controls and personal protection

Workplace safety and PPE guidelines

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| Engineering | Use local exhaust ventilation to maintain airborne concentrations below the exposure limits. |
| Personal protective Equipment | <ul style="list-style-type: none"> • Eye protection: wear safety glasses or goggles • Skin protection: wear appropriate protective clothing to prevent skin contact. • Hand protection: wear protective gloves. • Respiratory protection: use appropriate respiratory protection if ventilation is inadequate. |

SECTION 9: Physical and chemical properties

| Physical and chemical properties | |
|--|-------------------------|
| Physical appearance | Clear, colorless liquid |
| Odor | Characteristic odor |
| pH | Not applicable |
| Boiling point | -89 °C |
| Melting point | 82.5 °C |
| Flash point | 12.2 °C |
| Evaporation rate | 1.6 (butyl acetate=1) |
| Flammability: | Flammable |
| Upper/lower flammability or explosive limits | 12.7% v/v Lower: 2% v/v |
| Vapor pressure | 33 hPa at 20°C |
| Vapor density | 2.07 (air=1) |
| Solubility (ies) | Miscible with water |
| Partition coefficient (n-octanol/water) | Log Kow: -0.23 |
| Auto-ignition temperature | 399 °C |
| Decomposition temperature | Not determined |
| Viscosity | 2.4 mPa.s at 20°C |

SECTION 10: Stability and reactivity

| Stability and reactivity | |
|------------------------------------|---|
| Reactivity | Stable under normal conditions. |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization will not occur. |
| Conditions to avoid | Heat, sparks, open flames, and hot surfaces. |
| Incompatible materials | Strong oxidizing agents, acids, alkalis, and reactive metals. |
| Hazardous decomposition products | Carbon monoxide (CO), carbon dioxide (CO ₂), and/or unidentified organic compounds may be formed during combustion. |

SECTION 11: Toxicological information

| Irritation and toxicity details | |
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| Acute toxicity | <ul style="list-style-type: none"> • Oral: LD50 (rat): 5,600 mg/kg • Dermal: LD50 (rabbit): >20,000 mg/kg • Inhalation: LC50 (rat): 72,000 ppm/4 hours |
| Skin corrosion or irritation | May cause skin irritation. |
| Serious eye damage or irritation | May cause eye irritation. |
| Respiratory or skin sensitization, germ cell mutagenicity, carcinogenicity, reproductive toxicity, specific target organ toxicity (repeated exposure), aspiration hazard | Not classified. |

SECTION 12: Ecological information

Ecotoxicity: toxic to aquatic life with long lasting effects. Persistence and degradability: biodegradable.
Bioaccumulative potential: low potential for bioaccumulation. Mobility in soil not determined.

SECTION 13: Disposal considerations

Dispose of waste in accordance with local, state, and federal regulations.

SECTION 14: Transport information

UN number and proper shipping name: UN1219 – isopropanol. Transport hazard class 3, packing group II. No environmental hazards and no special precautions for user.

SECTION 15: Regulatory information

Safety, health, and environmental regulations/legislation specific for the substance or mixture

- Regulation (EC) No. 1907/2006 (REACH)
- Regulation (EU) No. 2015/830
- United States Toxic Substances Control Act (TSCA) Inventory
- Canadian Domestic Substances List (DSL)
- Australian Inventory of Chemical Substances (AICS)
- Korean Existing Chemicals List (KECL)

SECTION 16: Other information

This MSDS is based on available information and reflects the current state of knowledge at the date of its publication. It is intended to describe the product for the purposes of health, safety, and environmental requirements only and is not intended to guarantee any particular properties. The information is believed to be accurate, but no representation or warranty, expressed or implied, is made as to the accuracy or completeness of the information and the company assumes no liability or responsibility for any injury or damage resulting from the use of or reliance upon the information contained in this MSDS.

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