

Specification Sheet

Chemical Name		CAS No.
1,3,2-Dioxathiolane 2,2-dioxide (DTD)		1072-53-3
Testing Parameters	Testing Method	Specification
Appearance	Visual Inspection	White to off-white powder
APHA Color	UV-Vis	≤20
Moisture (ppm)	Karl Fisher	≤100
Purity (wt%)	GC	≥99.50
Acidity/HF (ppm)	Titration	≤100



Safety Data Sheet (SDS)**1,3,2-Dioxathiolane 2,2-dioxide (DTD)****SECTION 1: IDENTIFICATION****Product Name:** 1,3,2-Dioxathiolane 2,2-dioxide**CAS Number:** 1072-53-3**Recommended Use:** Laboratory chemical; electrolyte or synthesis intermediate**Supplier:** Automat Solutions, Inc.**Emergency Contact:** 510-982-6488**SECTION 2: HAZARD IDENTIFICATION****GHS Classification:**

- Acute Toxicity, Oral – Category 4 (H302)
- Skin Corrosion – Category 1B (H314)
- Serious Eye Damage – Category 1 (H318)
- Skin Sensitization – Category 1B (H317)
- Carcinogenicity – Category 2 (H351)

Signal Word: Danger**Hazard Statements:**

- H302: Harmful if swallowed
- H314: Causes severe skin burns and eye damage
- H317: May cause an allergic skin reaction
- H351: Suspected of causing cancer

Precautionary Statements:

- Avoid breathing dust
- Wear protective gloves, clothing, eye, and face protection
- Wash thoroughly after handling
- IF IN EYES: Rinse cautiously and seek immediate medical attention



- IF ON SKIN: Remove contaminated clothing, rinse skin with water
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- Store locked up
- Dispose of contents/container in accordance with local regulations

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	% Composition
1,3,2-Dioxathiolane 2,2-dioxide	1072-53-3	≤ 100%

SECTION 4: FIRST AID MEASURES

Inhalation: Move person to fresh air. Call a physician immediately.

Skin Contact: Rinse with water/shower. Remove contaminated clothing. Get medical attention.

Eye Contact: Rinse thoroughly with water. Remove contact lenses. Call an ophthalmologist.

Ingestion: Rinse mouth. Do not induce vomiting. Seek medical advice.

Most Important Symptoms: Burns, eye damage, respiratory irritation, sensitization.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media: Water spray, foam, dry chemical, or carbon dioxide.

Hazardous Combustion Products: Carbon oxides, sulfur oxides

Firefighting Equipment: Use SCBA and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid inhalation and contact. Use PPE. Ensure adequate ventilation.

Environmental Precautions: Prevent product from entering drains or water systems.

Cleanup Methods: Collect dry, avoid dust generation, and dispose in closed containers.

SECTION 7: HANDLING AND STORAGE

Handling: Work in fume hood. Avoid inhalation and contact with skin/eyes.

Storage: Keep tightly sealed in a dry, cool (2–8 °C), well-ventilated place.

Incompatibilities: Strong oxidizing agents.



SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Work in a well-ventilated area with appropriate containment.

Personal Protective Equipment (PPE):

- **Respiratory Protection:** P3 filter if dust is generated
- **Hand Protection:** Nitrile gloves (min. 0.11 mm, 480 min breakthrough)
- **Eye Protection:** Tightly sealed goggles
- **Skin Protection:** Protective clothing

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** White crystalline solid
- **Melting Point:** 95–97 °C
- **Boiling Point:** Decomposes
- **Flash Point:** Not available
- **Density:** 1.73 g/cm³ (20 °C)
- **Solubility (Water):** 714 g/L at 20 °C
- **Partition Coefficient (log Pow):** -0.45
- **Vapor Pressure:** <1 hPa (20 °C)
- **Decomposition Temp:** >170 °C
- **Autoignition Temp:** No data
- **Flammability:** Not flammable

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions.

Hazardous Reactions: Reacts with strong oxidizers.

Hazardous Decomposition: Carbon oxides, sulfur oxides

SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute Toxicity (Oral, Rat):** LD50 = 300–2000 mg/kg
- **Skin:** Corrosive (Rabbit)



- **Eyes:** Corrosive (Rabbit)
- **Sensitization:** Positive (Guinea pig)
- **Mutagenicity:** Mixed results (Ames positive, mammalian negative)
- **Carcinogenicity:** Suspected (Category 2)
- **Reproductive/Organ Effects:** No data

SECTION 12: ECOLOGICAL INFORMATION

- **Fish (96h LC50):** >15,238 mg/L (*Oryzias latipes*)
- **Daphnia (48h EC50):** >12,429 mg/L
- **Algae (72h EC50):** >9,068 mg/L
- **Biodegradability:** Not readily biodegradable (36% in 28 days)
- **Bioaccumulation:** Low (log Pow -0.45)

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of product and packaging in accordance with local, state, and federal regulations. Do not mix with other waste.

SECTION 14: TRANSPORT INFORMATION

- **DOT / IMDG / IATA**
 - **UN Number:** 3261
 - **Class:** 8 (Corrosive)
 - **Packing Group:** II
 - **Proper Shipping Name:** Corrosive solid, acidic, organic, n.o.s. (1,3,2-Dioxathiolane 2,2-dioxide)

SECTION 15: REGULATORY INFORMATION

- **TSCA:** Not listed
- **SARA 302/304/313:** Not listed
- **SARA 311/312:** Acute Health Hazard
- **State Regulations:** Not subject to MA, VT, WA, or ME chemical concern lists



SECTION 16: OTHER INFORMATION

Revision Date: May 2025

Disclaimer: The information provided is believed to be accurate and serves as a guideline for safe handling and use. Automat Solutions, Inc. is not liable for damages resulting from use or contact.

