

# Thiourea Dioxide

**MSDS No:** #1234 **Revision date:** 09/16/10

## **1. Product Identification**

**Product Name:** Thiourea Dioxide

**Other Designations:** Formamidinesulfinic acid, aminoiminomethane Sulfinic acid.

**CAS Number:** 1758-73-2

**EINECS/ELINCS:** 217-157-8

**% weight:** >99

## **2. Hazardous Ingredients**

**Hazardous Components:** Thiourea Dioxide

## **3. Physical Data**

**Appearance and odor:** White, granular solid, no odor.

**Vapor Pressure:** N/A

**Vapor Density:** 3.8

**Solubility in Water:** 30g/l @ 25 degrees C

**pH:** 4 (1% solution)

**Ignition Temp:** N/A

**Bulk Density:** N/A

**Boiling Point:** > 212 degrees F

**Freezing/Melting Point:** 259 degrees F

## **4. Fire and Explosive Data**

**Flash Point:** Not applicable

**Extinguishing Media:** CO2 Dry Chemical Foam Water Fog

**Special Fire Fighting Procedures/Unusual Fire or Explosive Hazards:** Firefighters should be equipped with protective clothing and self-contained breathing apparatus to protect against toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, and sulfur oxides. In case of fire or explosion, keep unnecessary people away. Isolate hazard area and any entry. Stay upwind, out of low areas and ventilate closed spaces before entering.

**Additional Information:** Material may decompose after long exposure to high moisture heat.

## **5. Reactivity Data**

**Thermal Decomposition:** Thiourea Dioxide may decompose upon lengthy exposure of high temperature and humidity. Decomposition temperature above 123 degrees C.

**Hazardous Reactions:** In the case of dusty organic products, the possibility of a dust explosion should always be considered. Thermal oxidative decomposition can produce toxic fumes of carbon monoxide, carbon dioxide, hydrogen cyanide, nitrogen oxides and sulfur oxides.

## **6. Health Effects Data**

**Routes of Entry:** inhalation, ingestion.

**Target Organs:** skin, eyes, upper respiratory tract.

**Acute Effects:**

**Inhalation:** May cause irritation to the upper respiratory tract. Symptoms may include coughing, sore throat and shortness of breath.

**Skin:** skin irritant when moisture is present.

**Ingestion:** May cause irritation to the digestive tract. Symptoms may include nausea, vomiting, abdominal pain, diarrhea, dizziness and headache.

**Carcinogenic-IARC, NTP, OSHA, ACGIH:** No

**Signs & Symptoms of Over Exposure:** May be irritating to the respiratory tract. Symptoms may include coughing, sore throat, and shortness of breath.

**Medical Conditions Aggravated by Exposure:** Persons with any pre-existing skin, eye or respiratory conditions may be more susceptible to the effects of this product.

## **7. Emergency and First Aid Procedures**

**Eye Contact:** Wash immediately with large amounts of water, lifting the upper and lower lids until no evidence of product remain. Get medical attention immediately. Do not wear contact lenses while handling.

**Skin Contact:** Remove all contaminated clothing immediately. Wash immediately with soap and plenty of water. If temporary skin reaction occurs, it should be treated as allergic contact dermatitis. Launder contaminated clothing before reuse.

**Ingestion:** Get medical attention. Never give fluids or induce vomiting if patient is unconscious or has convulsions.

**Inhalation:** If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth to mouth. If breathing is difficult, give oxygen. Call a physician.

## **8. Employee Protection Recommendations**

**Eye Protection:** Employees should wear protective eye-goggles with side protection shield. Do not wear contact lenses while handling this material without additional eye protection.

**Skin Protection:** Employees should avoid skin contact by wearing protective clothing. Long sleeve shirts, pants, gloves e.g. Of PVC or nitrile rubber, and boots are recommended. Additional protections such as impervious suits are recommended when the potential for dermal contact is significant. Employees should wash their hands and face before eating and drinking and shower thoroughly before leaving work. Keep away from food and drink stuffs.

**Respiratory Protection:** Inhalation of dust and aerosols must be absolutely prevented by the use of a NIOSH approved dust respirator.

**Ventilation:** Use local ventilation.

## **9. Storage and Spill or Leak Procedures**

**Storage:** Safe handling-In accord with good industrial practice. Handle with care and avoid personal contact. Store in a cool (below 35 degrees C), dry area out of direct sunlight. Protect from atmospheric moisture. Store away from oxidizing agents. Do not add to hot materials, do not subject to frictional heat as decomposition may result.

**In Case Material is Released/Spilled:** Avoid formation and deposition of dust. Do not empty into drains or waters. Do not touch or walk through the spilled material: stop leak if you can do it without risk. Take up with sand or other non-combustible absorbent material or suitable vacuum and place into labeled, sealable containers. Scrub spilled area with detergent, flush with copious amounts of water.

**Waste Disposal Method:** If utilization or recycling of the product is not possible, it should be disposed of in accordance with existing federal, state and local environmental regulations, e.g. By incineration in a suitable plant. Soiled, empty containers are to be treated in the same way as the contents.

**10. Shipping Data****Proper Shipping Name:** Thiourea Dioxide.**D.O.T. Hazard Classification:** 4.2**UN Number:** UN3341.**Packing Group:** III11. **Label:** Spontaneously combustible**12. Regulatory Data****EPA Regulations:**

RCRA hazardous Waste Number: Not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261.??) not classified

CERLA Hazardous Substance (40 CFR 302.4) listed/unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

CERLA Reportable Quantity (RQ), ??lb (?? kg)

SARA 311/312 Codes: SARA Toxic Chemical (40 CFR 372.65): not listed. SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning

Quantity (TPQ)

**OSHA Regulations:**

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-a): Not listed.

OSHA Specifically Regulated Substance (29 CRF 1910.????)

**Notice to Reader**

The information contained in this MSDS is based on data from sources considered to be reliable but Rupert, Gibbon & Spider Inc. does not guarantee the accuracy or completeness thereof. Rupert, Gibbon & Spider Inc. urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with this product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology or fire and understand the data in this MSDS.