

Thiourea Dioxide

MSDS No: #1234 **Revision date:** 11/29/02

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.????)

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Pre-Reduced Indigo

MSDS No: 693

Effective Date: 03/05/07

Amendatory Date: 03/14/07

1. Product Identification

Product Name: Pre-Reduced Indigo

Product Code: #693

Chemical Nature: Indigo Blue Grains 60%

Color Index Name: Reduced Vat Blue 1

T.S.C.A Status: N/A

2. Hazardous Ingredients

Hazardous Components: None known

Current TLV's: N/A

NFPA Ratings

Health 2

Flammability 1

Reactivity 0

HMIS Ratings

Health 1

Flammability 1

Reactivity 0

4=Extreme

3=High

2=Moderate

1=Slight

0=Insignificant

3. Physical Data

Appearance: Powder & Grains

Color: Blue

Odor: Odorless

Solubility in Water: Soluble

pH: Alkaline

Bulk Density: Approximately 400 kg/m³

4. Fire and Explosive Data

Flash Point: N/A

Extinguishing Media: Water spray, dry extinguishing media, foam.

Unsuitable Extinguishing Media: Carbon dioxide (for safety reasons).

Special Fire Fighting Procedures/Unusual Fire or Explosive Hazards: Harmful vapors.

Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Special Protective Equipment: Wear a self-contained breathing apparatus.

Additional Information: Avoid whirling up the material/product because of the danger of dust explosion. The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

5. Health Effects Data

Animal Toxicity Oral – LD50 (ingestion): No Data

Fish, LC50: No Data

Eye Effects: Primary irritations of the mucous membrane/rabbit: non-irritant

Skin Effects: Primary skin irritation/rabbit: non-irritant

Human Effects of Overexposure: Avoid breathing dust; inhalation may cause coughing and sneezing. Avoid contact with skin or eyes, will discolor the skin. Wash thoroughly after handling.

6. Emergency and First Aid Procedures

Eye Contact: Wash affected eyes for at least 15 minutes under running water with eyelids held open.

Skin Contact: Wash thoroughly with soap and water.

Ingestion: Rinse mouth and then drink plenty of water.

Note to Physician: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

Inhalation: If difficulties occur after dust has been inhaled remove to fresh air and seek medical attention.

7. Employee Protection Recommendations

Eye Protection: Safety glasses with side-shields (frame goggles).

Skin Protection: Chemical resistant protective gloves e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7mm). Other manufacturer's directions for use should be observed because of great diversity of types. Due to the coloring properties of the product closed work clothes (coveralls) should be used in order to avoid stains during manipulation.

Respiratory Protection: Suitable respiratory protection for lower concentrations or short term effect: Particle filter Type P2, medium efficiency, (solid and liquid particles of harmful substances).

Ventilation: Local

Other: Handle in accordance with good industrial hygiene and safety practice.

8. Reactivity Data

Stability: Stable

Polymerization: N/A

Incompatibility (materials to avoid): None known

Hazardous Decomposition Products: No hazardous decomposition products if stored and handled as prescribed/indicated.

9. Spill or Leak Procedures

In Case Material is Released/Spilled: Avoid dust formation. Use personal protective clothing. Contain contaminated water/fire fighting water. Do not discharge into drains/surface water or groundwater.

Waste Disposal Method: For small amounts, pick up with suitable appliance and dispose of. For large amounts, contain with dust binding material and dispose of. Avoid raising dust. Must be dumped or incinerated in accordance with local regulations. Contaminated packaging should be disposed of in the same manner as the contents.

10. Special Precautions and Storage Data

Handling and Storing Precautions:

Handling: breathing must be protected when large quantities are decanted without local exhaust ventilation. As protection against fire and explosion avoid dust formation and take precautionary measures against static discharges.

Storage: keep container tightly closed and dry, store in a cool place.

11. Shipping Data

Proper Shipping Name: Non Hazardous Material

D.O.T. Hazard Classification: N/A

Fr. Class Package: N/A

12. Ecological Information

Persistence and degradability:

Evaluation: Well eliminable from water by absorption on activated sludge.

Assessment: The product is not very soluble in water and can thus be removed from water mechanically in suitable effluent treatment plants.

Other adverse effects: Absorbable organically-bound halogen (AOX): 2.5%. This product contains according to the formulation, organically bound halogen. It can increase the AOX-value in the water purification plants overflow or if it reaches waters. The product contains: 8,8 W/W% copper. The heavy metals mentioned are present in complex bound form as substantial constituent of the colorant.

Other ecotoxicological advice: The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

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Supplies & Clothing Blanks Since 1969*

Soda Ash

MSDS No: #007

Effective Date: 3/14/97

Amendatory Date: 3/14/7

1. Product Identification

Product Name: Soda Ash

Product Code: 007

2. Hazardous Ingredients

Hazardous Components: Sodium Carbonate

3. Physical Data

Boiling Point: N/A

Vapor Pressure: N/A

Vapor Density: N/A

Solubility in Water: 30%

Appearance & Odor: Odorless white powder or granular solid crystal

Specific Gravity: 2.333

Melting Point: 1564 F

Evaporation Rate: N/A

4. Fire and Explosive Data

Flash Point: N/A

Extinguishing Media: Use water spray, dry chemical, CO2 or alcohol

Special Fire Fighting Procedures: Fire fighters should wear self-contained breathing apparatus and full protective clothing. Use water spray to cool nearby containers and structures exposed to fire.

Unusual Fire or Explosive Hazards: Extinguish all nearby sources of ignition.

5. Reactivity Data

Stability: Stable

Incompatibility (materials to avoid): Acids

Hazardous Decomposition Products: May liberate carbon monoxide, carbon dioxide or oxides of sodium.

Hazardous Polymerization: Will not occur

6. Health Effects Data

Routes of Entry: Inhalation, skin or eye contact

Acute: N/A

Chronic: May cause sensitization

Carcinogenic: Non-carcinogenic

Signs & Symptoms of Exposure: Inhalation: breathing dust may irritate the nose, throat, cause coughing and chest discomfort. Excessive contact can cause damage to the nasal septum.

Medical Conditions Aggravated by Exposure: None reported

7. Emergency and First Aid Procedures

Eye Contact: Immediately flush with lots of running water for at least 15 minutes, lifting the upper and lower eyelids occasionally. Get medical attention.

Skin Contact: Immediately wash skin with lots of soap and water. Remove contaminated clothing and shoes, wash before reuse. Get medical attention if irritation persists after washing.

Ingestion: Do not induce vomiting. If conscious, give lots of water or milk. Get immediate medical attention. Do not give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. Give artificial respiration if not breathing. Get immediate medical attention.

8. Employee Protection Recommendations

Respiratory Protection: If use conditions generate dusts, wear a Niosh-approved respirator appropriate for those emission levels. Appropriate respirators may be a full-face piece or a half mask air-purifying cartridge respirator with particulate filters, a self-contained breathing apparatus in the pressure demand mode, or a supplied air respirator.

Ventilation: Local mechanical exhaust ventilation capable of maintaining dust emissions at the point of use below the pel.

Protective Gloves: Rubber gloves

Eye Protection: Chemical goggles and full face shield. It is generally recognized that contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury.

Other Protection: Long sleeved shirt, trousers, safety shoes and rubber apron. An eyewash and safety shower should be nearby and ready for use.

Storage & Handling: Store in a cool, dry, well-ventilated place. Store away from all other chemicals and potential sources of contamination. Keep container tightly closed when not in use. Do not use pressure to empty container. Wash thoroughly after handling. Do not get in eyes, on skin or on clothing. Containers, even those that have emptied, will retain product residue and vapors. Always obey hazard warnings and handle empty containers as if they were full.

9. Spill or Leak Procedures

In Case Material is Released/Spilled: Wear protective equipment including rubber boots, rubber gloves, rubber apron and a self-contained breathing apparatus in the pressure demand mode or a supplied-air respirator. If the spill or leak is small, a full face-piece air-purifying cartridge respirator equipped with a particulate filter may be satisfactory. In any event, always wear eye protection. For small spills, sweep up and dispose of in dot-approved waste containers. For large spills, shovel into dot-approved waste containers. Keep out of sewers, storm drains, surface waters and soil.

Waste Disposal Method: Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures. Empty containers can have residues, gases and mists and are subject to proper waste disposal as above.

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