

AERCHEM INC.
400 W. 7th Street, Suite 112
Bloomington, IN 47404

Tel: 812.334.9996 Fax: 812.334.1960 Emergency: 800.424.9300

Effective Date: 12/28/95

Product Name: THIOUREA

Physical Data:

Melting point (range) Approx.:	171-184°C
Boiling point (at hPa):	n.d.a.
pH value(at g/l H ₂ O)(°C):	n.d.a.
Solubility in water(20°C):	137 g/l
Odor:	Odorless
Color:	Colorless
Physical Form:	Solid
Vapor pressure(20°C):	n.d.a. hPa
Density (20°C):	1.405 gm/cm ³
Bulk density:	649 kg/m ³
Viscosity (°C):	n.a.
Partition coefficient n-octanol/water:	Log Po/w=-0.92

Fire and Explosion Information:

Flash point:	n.a.
(Auto) Ignition temperature:	n.d.a.
Explosive Properties:	None
Explosive Limits -lower:	n.a.
Oxidizing properties:	None
Autoflammability:	Not Spontaneously Flammable
Self-ignition temperature:	n.d.a.
Special fire and explosions precautions:	
Extinguishing media:	foam,water spray
In case of fire, wear a self contained breathing apparatus and protective suit.	
Water stream directed into fire may cause frothing with subsequent spread of fire.	
Cool container/ tanks with water fog.	

Reactivity Data:

Conditions to avoid: Temperatures above 140°C

Materials to avoid: Strong oxidizing agents ,strong acids, strong bases.
Hazardous decomposition products: sulphur oxides

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Handling and Storage Information:

Provide appropriate exhaust ventilation at machinery . For professional use only. Avoid contact with eyes, skin, and clothing.

Handle accordance with good industrial hygiene and safety

Disposal Information:

Must undergo special treatment in an authorized incineration plant to comply with local and state regulations. Review all local, state and federal regulations concerning health and pollution for appropriate disposal procedures.

Contaminated packaging. Do not reuse empty containers.

Accidental release measures:

Use personal protective equipment. Ensure adequate ventilation. Dike or contain spill. Shut off source of leak if safe to do so. Clean up promptly by scoop or vacuum. Avoid dust formation. Dispose of in accordance with applicable federal, state and local regulations.

Health Hazard Information:

A. Exposure/Health Effects

Harmful if swallowed. Possible risks of irreversible effects. Irritating and /or toxic gases or fumes may be generated by thermal decomposition or combustion. Closed containers may rupture or explode (due to pressure build-up) when exposed to extreme heat.

B. First Aid:

Inhalation: Move to fresh air. Consult physician for severe cases.

Ingestion: Rinse mouth. Drink 1 or 2 glasses of water, if conscious. Induce vomiting immediately and call a physician.

Skin Contact: Take all contaminated clothing off immediately. Wash off immediately with plenty of water.

Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

C. Occupational Control Measures:

Airborne Exposure Limited:

Ventilation Systems: local exhaust as needed to control vapor/dust levels to below recommended limits

Skin Protection: protective suit

Eye Protection: goggles

Special Protection: protective gloves. Wash hands before breaks and immediately after handling the product. When using, do not eat or drink or smoke. Keep away from food drink and animal feeding stuffs.

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D. Toxicity Data

LD50/oral/rat=1750 mg/kg
LD50/dermal/rabbit= >2800 mg/kg
Inhalation toxicity, rat: no mortality after 4 h exposure in a saturated dust atmosphere.

Subacute to chronic toxicity
Thiourea has been listed as na animal carcinogen by NTP ana IARC. Mutagenic in vitro.
Animal studies have show Thiourea to be tumorigenic in the liver and sense organs.
Chronic feeding studies have caused goiter and bone marrow depression(anemia, leukopenia, thrombocytopenia, and agranulocytosis in animals. Fetotoxic.

Human experience
May cause sensization with susceptible persons.

E. Ecological information

Persistence and degradability:

Biodegradabilty

DECD 301 C: not readily biodegradable
the product is biodegradable after adaption.

Bioaccumulative potential

Bioconcentration factor BCF=<10
Partition coefficient (octano/water) log Po/w= -0.92

Ecotoxic effects

LC50/96 h/Brachydanio rerio= 10000 mg/l
LC50/ 48 h/ orange-red killifish = .10000 mg/l
EC50/ 24 h/ Daphnia = 110 mg/l
EC50/ 96 h/ Scenedesmus subspicatus = 6.8 mg/l (growth inhibition)
EC10/ Pseudomonas putida = 1265 mg/l (growth inhibition)

F. Transport information:

DOT Hazard Class: 9
UN/NA Number: UN 3077
DOT Shipping Name: Environmentally Hazardous Substance, Solid, n.o.n.(Thiourea)
Packaging Group: III