

MATERIAL SAFETY DATA SHEET

This sheet is to inform you of any hazards that may be associated with this product. However, Thermo Nicolet Corporation claims no responsibility for its completeness or accuracy. This data does not relate to any use of this product, alone or in combination with any other material or processes.

Thermo Nicolet

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General Information

Common name: KRS-5
Chemical name: Thallium iodide/bromide (solid mixture)
Formula: TII/TIBr
CAS number: 7790-30-9/7789-40-4
Supplier: Engelhard Corp.
29001 Solon Road
Solon OH 44139
Telephone: 216-292-9200

Hazardous Ingredients/Identity Information

Ingredient: Thallium iodide/bromide
CAS number: 7790-30-9/7789-40-4
% Weight: 100
PEL-OSHA: 0.1 mg/m³ skin
TLV-ACGIH: 0.1 mg/m³ skin

Ingredient hazard statement

Note: Due to formed nature of this product, no airborne concentrations are expected.

May cause eye and skin irritation.

May cause allergic skin reaction.

Harmful if inhaled or swallowed.

Unless otherwise noted, all values are reported as 8-hour time-weighted averages (TWAs) and total dust (particulates only). All ACGIH TLVs refer to the 1988-89 standards. All OSHA PELs refer to 29 CFR Part 1910 Air Contaminants: Final rule, January 19, 1989.

Physical/Chemical Characteristics

Boiling point: Not applicable
Specific gravity (water = 1): 7.4
Melting point: Ca 415°C
Vapor pressure (mm Hg): Not applicable
Vapor density (air = 1): Not applicable
Evaporation rate (butyl acetate=1): Not applicable
% Solubility in water: Very low
Appearance and odor: Reddish-orange solids; odorless.

Fire and Explosion Hazard Data

Flash point: Not available
Autoignition: Not available
LEL: Not available
UEL: Not available

NGPA hazard classification

Health: 1 Flammable: 0 Reactivity: 0

HMIS hazard classification

Health: 1 Flammable: 0 Reactivity: 0

Extinguishing media

Use water, carbon dioxide or foam.

Special fire fighting procedures

Wear positive-pressure, self-contained breathing apparatus.

Unusual fire and explosion hazards

Not a fire or explosive hazard. However, toxic emissions are possible in a fire situation.

Reactivity Data

Stability: Generally considered stable.
Avoid: Temperatures above 392°C.

Incompatibility (materials to avoid)

None expected.

Hazardous decomposition or by-products

Will vaporize at temperatures from about 500° to 600°C, evolving thallium bromide and thallium iodide.

Polymerization: Polymerization is not expected to occur.
Avoid: Not applicable

Health Hazard Data

Routes of entry

Eyes? Yes Skin? Yes Inhalation? Yes Ingestion? Yes

Effects of overexposure

Eye contact: May cause irritation.

Skin contact: May cause irritation and allergic reaction.

Inhalation: Prolonged or excessive exposure may result in thallium poisoning that effects primarily the nervous system and body hair. Early symptoms are fatigue, limb pain, metallic taste in mouth, and loss of hair. Delayed symptoms are inflammation of peripheral nerves, protein in urine and joint pain.

Ingestion: Same effects as inhalation.

Carcinogenicity

NTP? No

IARC? No

OSHA? No

Chronic health hazards

Refer to the "Effects of overexposure" information above.

Medical conditions generally aggravated by exposure

May aggravate existing respiratory and/or skin ailments.

Emergency and first aid procedures

Eyes and skin contact: Immediately flush eyes with water to remove particles. Call a physician if irritation develops. Wash skin with soap and water.

Inhalation: Procedures normally not needed. If person is exposed to excessive levels of dust or fumes, remove person to fresh air and seek medical attention.

Ingestion: Procedures normally not needed. If large quantities are ingested, seek medical advice.

Precautions for Safe Handling and Use

EPA waste number: Not regulated
UN number: Not applicable
DOT classification: Not regulated

Steps to be taken in case material is released or spilled

If original container is broken or not useable, scoop up or vacuum material into a container for disposal.

It is recommended that each user establish a spill prevention, control and countermeasure plan (SPCC). Such plan should include procedures applicable to proper storage, control and clean-up of spills, including reuse or disposal as appropriate (see the "Disposal Data" section, below).

Precautions to be taken in handling and storage

Wash thoroughly after handling.

Keep away from food and feed products.

Keep container closed.

Personnel sampling procedure

None established.

Control Measures

Respiratory protection

A NIOSH/MSHA-approved respirator as necessary.

Ventilation

General; local exhaust ventilation as necessary to control dust.

Protective equipment

Safety glasses (with side shields).

Rubber or neoprene gloves.

Work/hygiene practices

Avoid breathing dust.

Avoid contact with eyes, skin and clothing.

Disposal Data

Waste disposal method

Federal, state and local disposal laws and regulations will determine the proper waste disposal procedure. All waste materials should be reviewed to determine the applicable hazards (testing may be necessary). Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected. Some waste materials are amenable to recycle/reuse.

Label Data

Federal and state regulations

SARA hazard categories:

Immediate (acute) health hazard:	Yes
Delayed (chronic) health hazard:	Yes
Fire hazard:	No
Reactivity hazard:	No
Sudden release of pressure:	No

SARA Section 313 notification:

This product contains a toxic chemical (or chemicals) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Chemical name:	Thallium iodide/bromide
CAS number:	7790-30-9/7789-40-4
% Weight:	100

Disclaimer

We have compiled the information and regulations contained in this Material Safety Data Sheet from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, quantity or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products.