Safety Data Sheet

1 Identification of the substance and the company

Description:
Product name: Sodium Iodide (Tl) Scintillation Crystals
Trade names/synonyms: Thallium doped Sodium Iodide, NaI (Tl)
REACH Reg.-No.: exempted from registration in accordance with REACH.
Application:
Inorganic Scintillation Detector Crystal.
Company identifier:

Hilger Crystals
Unit R1 Westwood Estate Margate Kent CT9 4JL UK
Tel.: +44 (0) 1843 231166 email Sales@hilger-crystals.co.uk
Web: www.hilger-crystals.co.uk

Emergency information:
Contact as above (Mon-Thurs 8.00 – 17.00, Fri 8.00- 12:00)
In the event of a medical enquiry please contact your local doctor or hospital A&E department.

2 Hazards Identification

Classification of the substance:
EU/EEC - According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 2015/830]
According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)
CLP • Due to formed nature of this product, no airborne concentrations are expected.
Acute Toxicity Oral 4 - H302
DSD/DPD • Due to formed nature of this product, no airborne concentrations are expected.
Harmful (Xn)
R20/22
Label Elements
CLP
WARNING

Hazard statements
H302 - Harmful if swallowed
Precautionary statements
P264 - Wash thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P301+P312 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell.
P330 - Rinse mouth.
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Safety Data Sheet

DSD/DPD

Risk phrases • R20/22 - Harmful by inhalation and if swallowed.

Other Hazards

CLP - According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD • According to European Directive 1999/45/EC this material is considered dangerous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012 • Due to formed nature of this product, no airborne concentrations are expected.

Acute Toxicity Oral 4

Label elements

OSHA HCS 2012

WARNING

Hazard statements

Harmful if swallowed

Precautionary statements

Prevention • Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Response • IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Storage/Disposal • Dispose of content and/or container in accordance with local, regional, national, and/or
international regulations.

Other hazards

OSHA HCS 2012 • Under United States Regulations (29 CFR 1910.1200 - Hazard Communication
Standard), this product is considered hazardous.

Canada

According to: WHMIS

Classification of the substance or mixture

WHMIS • Due to formed nature of this product, no airborne concentrations are expected.

Not classified

Label elements

WHMIS • No label element(s) required.

Other hazards

WHMIS • In Canada, the product mentioned above is not considered hazardous under the

Workplace Hazardous Materials Information System (WHMIS).

Other hazards:

None

3 Composition/Information on Ingredients

Substances

Material does not meet the criteria of a substance

Mixtures

Component Name	CAS number	%	EINECS number
Sodium Iodide	7681-82-5	>95%	232-679-3
Thallium Iodide	7790-30-9	<1%	232-199-7

4 First-aid measures

Description of first-aid measures:

GENERAL: Consult a doctor for specific advice.

EYES: Irrigate thoroughly with water for at least 15 minutes. Obtain medical attention.

SKIN: Wash thoroughly with soap and water. Dry area with clean towel. Remove contaminated clothing and wash clothing before re-use.

INHALATION: Remove to fresh air. Perform artificial respiration if breathing has stopped. Do not use mouth to mouth or mouth to nose resuscitation. When breathing is difficult, properly trained personnel may administer oxygen. Keep affected person warm and at rest. Obtain medical attention.

INGESTION: Do not induce vomiting. Wash out mouth thoroughly with water and give two cups of water to drink. Do not give carbonated drinks. Never give anything by mouth to an unconscious person. Obtain medical attention immediately.

Most important symptoms and effects, both acute and delayed:

Refer to Section 2 and Section 11.

Indication of any immediate medical attention and special treatment required:

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

5 Firefighting measures

Extinguishing media:

This product does not burn.

Special hazards arising from the substance:

In certain fire conditions, traces of other toxic gases cannot be excluded, e.g., Hydrogen Iodide (HI)

Advice for firefighters:

Use breathing apparatus if necessary.

Safety Data Sheet

6 Accidental release measures

Emergency procedures, personal precautions and protective equipment:
Wear suitable protective clothing & equipment as listed under Section 8. Avoid making dust.

Environmental precautions:
Prevent further leakage or spillage. Do not let product enter drains. Do not discharge to the environment.

Methods and materials for the containment and cleaning up:
Take up and containerise for proper disposal. Containerise any cleaning materials used for proper disposal.

7 Handling & storage

Precautions for safe handling:
Use with adequate ventilation. Keep away from heat. Avoid contact with skin and eyes. Protect against physical damage. Avoid generating dust.

Conditions for safe storage including any incompatibilities:
Store in original container in cool dry conditions, keep away from water, foodstuffs and acidic materials. The product is slightly hydroscopic.

Specific application:
Scintillation crystal material for radiation detection components.

8 Exposure controls/personal protection

Control parameters:

Exposure Limits/Guidelines			
	Result	ACGIH	Poland
Thallium iodide	STELs	Not established	0.3 mg/m3 STEL [NDSCh] (as Tl) as Thallium compounds
	TWAs	0.02 mg/m3 TWA (inhalable fraction, as Tl) as Thallium compounds	0.1 mg/m3 TWA [NDS] (as Tl) as Thallium compounds

Exposure Control Notations:
ACGIH - Thallium iodide as Thallium compounds: Skin: (Skin - potential significant contribution to overall exposure by the cutaneous route)

Exposure controls:
Protective PVA gloves and an N95 mask are required, and the use of a laboratory coat is suggested. Safety goggles or safety glasses with side shields are required if there is any possibility of chipping or dust creation. Respirators must be worn when the threshold limit is exceeded. Provide adequate general mechanical ventilation, and local exhaust ventilation. Wash hands immediately after handling the product.

9 Physical & chemical properties

Information on basic physical and chemical properties
Appearance: Whitish colour, no odour

Safety Data Sheet

Flash point: Not applicable
Boiling point: 1300 ºC
Flammability: Not Applicable
Melting point: 661 ºC
Explosive properties: Not Applicable
Vapour pressure: Not applicable
Solubility in water: Very soluble
pH in aqueous solution: Not determined
Other safety information:

10 Stability & reactivity

Reactivity: Reacts with strong mineral acids and strong oxidising materials
Chemical stability: Stable under normal conditions of storage and use. Hygroscopic.
Possibility of hazardous reactions: Explosive reaction with oxidising agents or peroxides, alkali metals, ammonia and fluorides.
Conditions to avoid: Can react with oxidising agents. Avoid strong acids.
Incompatible materials: Strong Acids. Strong oxidising materials. Peroxides. Fluorides.
Hazardous decomposition products: when heated to decomposition, emits toxic fumes of iodine

11 Toxicological information

Information on toxicological effects:
Toxic by ingestion and inhalation of dust, with a cumulative effect. Affects nervous system. Particular care must be exercised when machining and creating dust or particles. Inhalation of dust may irritate respiratory system.

Toxic dose
LD50 Sodium Iodide 3118mg/Kg oral ratio
LD50 Thallium Iodide 24.1mg/Kg oral ratio

Carcinogenicity:
No evidence of carcinogenic properties.

Mutagenicity/teratogenicity:
No evidence of reproductive effects.

Safety Data Sheet

12 Ecological information

Toxicity: Danger to drinking water. Poisonous to Fish.
Persistence and degradability: No Data
Bioaccumaltive potential: No Data
Mobility in soil: No Data
Results of PBT and vPvB assessment: Not required or conducted
Other adverse effects: Do not allow product to reach ground water, water course or sewage system. Only release to environment with proper government permit.

13 Disposal considerations

Waste treatment methods:
Chemical residues are generally classified as special waste and are covered by regulations which vary according to location. Contact your local waste disposal authority for advice or pass to a chemical disposal company.

14 Transport information

UN Number: 3077
UN Proper shipping name: Sodium Iodide, thallium Iodide compound, solid N.O.S (Sodium iodide thallium)
Transport hazard class: 9
Packing group: III
Environmental hazards: Marine pollutant
Special user precautions: None
Transport in bulk Marpol / IBC: No Data

15 Regulatory information

Safety, health and environmental regulations/legislation for the substance: TSCA:
Listed in the TSCA inventory
SARA: 302/304: Not Listed
SARA: 311/312: Acute health hazard, Chronic health hazard.
SARA (TITLE 313): Sodium iodide thallium
WHMIS: This is a controlled product under the Canadian Workplace Hazardous Materials Information System
OSHA: Hazardous product under the OSHA Hazard Communication Standard (29 CFR 1910.1200)

16 Other information

Revision date: January 2023
The above information is believed to be true and correct and is supplied as a guide for information only, it does not purport to be all inclusive.