

Safety Data Sheet

1. Chemical product and company identification

Product name : Thorin

Company information

Name of manufacturer : KANTO CHEMICAL CO., INC.
 Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
 Name of section : Business Administration Department, Reagent Division
 Telephone number : +81-3-6214-1090
 Facsimile number : +81-3-3241-1047
 Mail address : BC32@kanto.co.jp
 Reference No : 18111
 Recommended use : For research use only
 Restrictions on use : Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Health hazards	Serious eye damage/eye irritation	Category 2A
	Reproductive toxicity	Category 2

Hazard pictograms



Signal word : Warning

Hazard statements : Causes serious eye irritation
 Suspected of damaging fertility or the unborn child

Precautionary statements

Prevention : Do not handle until all safety precautions have been read and understood.
 Wash hands, forearms and face thoroughly after handling.
 Wear protective gloves/protective clothing/eye protection/face protection.

Response : IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 IF exposed or concerned: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.

Storage : Store locked up.

Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.



3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Synonyms : 2-(2-Hydroxy-3,6-disulfo-1-naphthylazo)benzenearsonic acid disodium salt

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Thorin	≥ 90	C16H11AsN2Na2O10S2	Not listed	222-993-1	3688-92-4

4. First aid measures

First aid measures

First-aid measures after inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

First-aid measures after skin contact : Wash the affected areas under running water.

First-aid measures after eye contact : Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.

First-aid measures after ingestion : Rinse mouth with water. Give the victim one or two glasses of water or milk. Do not induce vomiting. Get medical treatment as soon as possible.

Personal Protection in First Aid and Measures : Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media : Water, dry chemical powder, carbon dioxide, dry sand, foam

Unsuitable extinguishing media : None

Fire hazard : Thermal decomposition emits harmful arsenic oxide(III) fume.

Firefighting instructions : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.
Fight fire from windward.
Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Foam extinguisher is effective for a large scale fire.

Personal protection (Emergency response) : Wear breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Wear proper protective equipment and avoid contact with skin and inhalation of dust. Conduct operations from upwind and evacuate people downwind.

Environmental precautions

Environmental precautions : Attention should be given to avoid damage to the environment by flowing of spillage to rivers.

Methods and Equipment for Containment and Cleaning up

For containment : Sweep up in a chemical waste container. Flush contaminated area



Prevention Measures for Secondary Accidents : with copious amounts of water.
: Remove nearby sources of ignition and prepare extinguishing media.

7. Handling and storage

Handling

Technical measures : Wear appropriate protective equipment to avoid contact with skin or inhalation of dust.
Precautions for safe handling : Avoid formation of dust and aerosols.
Do not allow contact with oxidizing substances.

Storage

Storage conditions : Store in a dark, cool place and tightly closed.
Material used in packaging/containers : Glass, polyethylene, polypropylene.

8. Exposure controls / Personal protection equipment

ACGIH TWA	Not established
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Appropriate engineering controls : Install a local ventilation system in case of dusty condition.

Protective equipment

Respiratory protection : Dust mask
Hand protection : Impervious protective gloves
Eye protection : Safety goggles
Skin and body protection : Protective clothing, protective boots

9. Physical and chemical properties

Physical state : Solid
Color : Orange
Odor : Odorless
pH : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability : Flammable solid
Vapor pressure : No data available
Relative density : No data available
Density : No data available
Relative gas density : No data available
Solubility : Water: Soluble.
Partition coefficient n-octanol/water (log Pow) : No data available



Explosive limits (vol %) : No data available
Viscosity, kinematic : No data available
Particle characteristics : No data available

10. Stability and reactivity

Reactivity : May react with oxidizing substances.
It dissolves in acid and is stable, but decomposes gradually in alkaline solution.
It forms water-soluble chelates with many metals.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Stable under normal conditions of use.

Conditions to avoid : Light, heat.

Incompatible materials : Oxidizing substances.

Hazardous decomposition products : Arsine, arsenic oxides.

11. Toxicological information

Acute toxicity (oral) : Classification not possible
Acute toxicity (dermal) : Classification not possible
Acute toxicity (inhalation) : No classification (gas)
Classification not possible (vapor)
Classification not possible (dust, mist)

Skin corrosion/irritation : Classification not possible
May cause skin irritation.

Serious eye damage/irritation : Causes serious eye irritation
It is an eye irritant to humans, it was classified into category 2A.

Respiratory sensitization : Classification not possible
Skin sensitization : Classification not possible
No test results are available on this substance. Although inorganic arsenic compounds may cause skin sensitization in humans, this is not a definitive conclusion. According to EHC 224, dermal sensitization to inorganic arsenic appears to be a rare occurrence in humans. Overall, due to insufficient study results available, the substance was classified into the "classification not possible" category.

Germ cell mutagenicity : Classification not possible
Classification is not possible due to lack of data. The DFG has classified arsenic and its inorganic compounds into category 3A for germ cell mutagenicity (which is equivalent to category 1B to 2 in the GHS classification).

Carcinogenicity : Classification not possible
IARC classifies "arsenic and inorganic arsenic compounds" as group 1 (carcinogenic to humans).



Reproductive toxicity	: Suspected of damaging fertility or the unborn child Although there are no data on this chemical, oral administration of dimethylarsinic acid, an organic arsenic compound, to pregnant mice (1 day 200~600 mg/kg) and rats (1 day 7.5~60 mg/kg) on gestational days 7-16 resulted in a significant increase in fetal mortality on 600 mg/kg/ day in mice and on 50~60 mg/kg/ day in rats, and a significant reduction in fetal weight gain was observed in 400~600 mg/kg in mice and 40~60 mg/kg in rats. Methylarsonate (disodium salt, 20~100 mg/kg) and dimethylarsinate (sodium salt, 20~100 mg/kg) also caused malformations (rib union, renal agenesis, encephalocele) with a chance of 6% or less when administered intravenously to pregnant hamsters on gestational day 8. Therefore, it was classified as category 2.
STOT-single exposure	: Classification not possible
STOT-repeated exposure	: Classification not possible There are no data on this substance. Roxarsone (4-hydroxy-3-nitrophenylarsonic acid), an organic arsenic compound, was administered orally to rats and mice for up to 13 weeks. In 800 mg/kg, shivering in both species and ataxia in rats were observed, and renal tubular necrosis, hemorrhage, and calcification of the outer medulla were observed in rats. However, the dose at which the lesion was found was above the guidance value, so it was classification not possible.
Aspiration hazard	: Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	: Classification not possible
Aquatic chronic	: Classification not possible

Persistence and degradability

No additional information available

Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone	: Classification not possible
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13. Disposal considerations

Ecological waste information	: Precipitation method : Dissolve the chemical completely by addition of sodium hydroxide solution. Then acidify the solution by diluted sulfuric acid. Add 4 folds of iron(III) sulfate solution that is chemical equivalent of containing arsenic and stir for a while. Harden the precipitate with cement and bury in a landfill site approved for hazardous waste disposal after confirming dissolving quantity in under criteria. Or consult approved disposal companies.
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<Note>



Contaminated container and packaging : *Dissolution test and dissolution standard for the disposal are in accordance with provisions under related laws.
: In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Packing group (IMDG) : Not applicable
Transport hazard class(es) (IMDG) : Not applicable

Air transport(IATA)

UN-No. (IATA) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Packing group (IATA) : Not applicable
Transport hazard class(es) (IATA) : Not applicable
Marine pollutant : Not applicable

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources : Encyclopaedia Chimica, Kyoritsu Shuppan Co, Ltd. (1963) .
Handbook of Poisonous and Deleterious substances, revised and enlarged edition, Yakumu Kohosa (2000) .
NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet(SDS) is prepared based on JIS Z7253.

