

Safety Data Sheet

1. Chemical product and company identification

Product name : Indanofan

SDS code : R7-01

Company/undertaking identification :

HAYASHI PURE CHEMICAL IND.,LTD.

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Emergency number : 06-6910-7305

Recommended use : For research and experimental use only.

Restrictions on use : Do not use for any purpose other than research and experiment. Do not use on a human body or for animal medicines, foods, household products, cosmetics, etc. Do not use in the environment.

2. Hazards identification

GHS classification

Physical hazards	Explosives	No classification
	Flammable gases	No classification
	Aerosol	No classification
	Oxidizing gases	No classification
	Gases under pressure	No classification
	Flammable liquids	No classification
	Flammable solids	classification not possible
	Self-reactive substances and mixtures	classification not possible
	Pyrophoric liquids	No classification
	Pyrophoric solids	classification not possible
	Self-heating substances and mixtures	classification not possible
	Substances and mixtures which in contact with water emit flammable gases	No classification
	Oxidizing liquids	No classification
	Oxidizing solids	No classification
	Organic peroxides	No classification
	Corrosive to metals	classification not possible
	Desensitized explosives	classification not possible
Health hazards	Acute toxicity (oral)	Category 4
	Acute toxicity (dermal)	No classification
	Acute toxicity (inhalation:gas)	No classification
	Acute toxicity (inhalation:vapors)	No classification
	Acute toxicity (inhalation:dust/mist)	classification not possible
	Skin corrosion/irritation	No classification
	Serious eye damage/eye irritation	Category 2B
	Respiratory sensitization	classification not possible
	Skin sensitization	Category 1
	Germ cell mutagenicity	classification not possible
	Carcinogenicity	classification not possible
	Reproductive toxicity	Category 2
	Specific target organ toxicity (single exposure)	Category 1 (central nervous system)

Environmental hazards	Specific target organ toxicity (single exposure)	Category 3 (Respiratory tract irritation.)
	Specific target organ toxicity (repeated exposure)	Category 1 (blood coagulation system)
	Specific target organ toxicity (repeated exposure)	Category 2 (liver)
	Aspiration hazard	classification not possible
	Hazardous to the aquatic environment, short-term (acute)	classification not possible
	Hazardous to the aquatic environment, long-term (chronic)	classification not possible
Hazard pictograms (GHS JP)	Hazardous to the ozone layer	classification not possible
		
		
	GHS07	GHS08
Signal word (GHS JP)	: Danger	
Hazard statements (GHS JP)	: Harmful if swallowed (H302) May cause an allergic skin reaction (H317) Causes eye irritation (H320) May cause respiratory irritation (H335) Suspected of damaging fertility or the unborn child (H361) Causes damage to organs (central nervous system) (H370) Causes damage to organs (blood coagulation system) through prolonged or repeated exposure (H372) May cause damage to organs (liver) through prolonged or repeated exposure (H373)	
Precautionary statements (GHS JP)		
Prevention	: Obtain special instructions before use. (P201) Do not handle until all safety precautions have been read and understood. (P202) Do not breathe dust/fume/gas/mist/vapors/spray. (P260) Wash hands, forearms and face thoroughly after handling. (P264) Do not eat, drink or smoke when using this product. (P270) Use only outdoors or in a well-ventilated area. (P271) Contaminated work clothing should not be allowed out of the workplace. (P272) Wear protective gloves/protective clothing/eye protection/face protection. (P280)	
Response	: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. (P301+P312) IF ON SKIN: Wash with plenty of water. (P302+P352) IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338) IF exposed or concerned: Call a POISON CENTER or doctor. (P308+P311) Get medical advice/attention if you feel unwell. (P314) Rinse mouth. (P330) If skin irritation or rash occurs: Get medical advice/attention. (P333+P313) If eye irritation persists: Get medical advice/attention. (P337+P313) Take off contaminated clothing and wash it before reuse. (P362+P364)	
Storage	: Store in a well-ventilated place. Keep container tightly closed. (P403+P233) Store locked up. (P405)	
Disposal	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. (P501)	

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Name	Concentration or Concentration range	Formula	Kanpo number		CAS RN
			CSCL no	ISHL no	
Indanofan	≥95%、≤100%	C20H17ClO3	-	-	133220-30-1

The above concentration or concentration range are not product specification.

All percentages listed in the above concentration or concentration range are wt%, unless otherwise specified.

4. First aid measures

First aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
Get immediate medical advice/attention.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing.
Gently wash with plenty of soap and water.
Get immediate medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical advice/attention.
- First-aid measures after ingestion : Rinse mouth.
Get immediate medical advice/attention.

5. Fire fighting measures

- Suitable extinguishing media : Use proper extinguishing media depending on peripheral fire.
- Unsuitable extinguishing media : Do not use a heavy water stream.
- Hazardous decomposition products in case of fire : In case of fire, product may produce irritative or toxic fumes/gases.
- Firefighting instructions : If ignited, for the initial fire-fighting, cut off combustion sources, extinguish fire at a stroke using appropriate fire-extinguishers.
In the case of peripheral fire, quickly remove movable containers to safe places.
If unable to be moved containers, sprinkle water to containers and surrounding equipment, etc. to cool.
- Protection during firefighting : Wear appropriate fire-resistant clothing including self contained-compressed air breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

- General measures : Before entering, ventilate the area.
Do not let unauthorized persons come close to the area.
Immediately place the leakage area in isolation, with taking proper distances for all directions.
Wear appropriate personal protective devices to prevent inhalation and contact with eye, skin, and clothing, and never attempt to work on the lee.

Environmental precautions

- Environmental precautions : Avoid release to the environment.
Prevent entry to sewers and public waters.

Methods and Equipment for Containment and Cleaning up

- Methods for cleaning up : Take care not to generate dust, sweep it up as much as possible, collect it in an empty container that can be sealed, and move it to a safe place.
Wash out the spilled area with large amounts of water.

7. Handling and storage

Handling

- Technical measures : Work with appropriate personal protective equipment to prevent inhalation or contact to eyes, skin, and clothing.
Handle with care to prevent leakage, overflowing, or scattering, minimize generation of mist or vapor, and thoroughly ventilate.
- Precautions for safe handling : Do not eat, drink or smoke when using this product.
Thoroughly wash your hands and gargle after handling.
Ensure good ventilation of the work station.
Do not contact, breathe or swallow.
- Prevents handling of incompatible substances or mixtures : Avoid prolonged or repeated exposure.

Storage

- Storage conditions : Store locked up.
Store in a well-ventilated place, away from direct sunlight. Keep container tightly closed and keep away from fire and heat sources.
- Material used in packaging/containers : Light shielding airtight container.
- Technical measures : Comply with applicable regulations.
- Storage temperature : Refrigerate: 2-10°C

8. Exposure controls / Personal protection equipment

- Appropriate engineering controls : Cover up tightly the generation source at the handling place or install local exhaust equipment or overall ventilation equipment. Install safety showers and eye-fountains near a handling place. Clearly indicate the location.

Protective equipment

- Respiratory protection : Dustproof mask
- Hand protection : Impervious protective gloves
- Eye protection : Protective glasses (general glasses, glasses with side-shields, goggles)
- Skin and body protection : Impervious aprons, Impervious work clothing, Impervious long boots

9. Physical and chemical properties

- Physical state : Solid
- Appearance : Powder
- Color : whitish
- Odor : Phenol odor
- pH : No data available
- Melting point : 61 – 62 °C
- 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 : No data available
- Vapor pressure : 2.8×10^{-6} Pa (25°C)
- Relative density : No data available
- Density : 1.2 g/cm³ (25°C)
- Relative gas density : No data available
- Solubility : Soluble in many organic solvents.
Water: 17.1 mg/l (25°C)
- Partition coefficient n-octanol/water (Log Pow) : 3.59 (25°C)
- Explosive limits (vol %) : No data available
- Viscosity, kinematic : No data available
- Particle characteristics : No data available

10. Stability and reactivity

Reactivity	: No data available
Chemical stability	: Stable under normal handling conditions. Unstable in acid. Stable in neutral and alkali. Due to the influence of light, decomposes relatively quickly.
Possibility of hazardous reactions	: May react with strong oxidizing agents.
Conditions to avoid	: Sunlight, heat. Contact with strong oxidizing agents.
Incompatible materials	: Strong oxidizing agents
Hazardous decomposition products	: Chlorine and its compounds

11. Toxicological information

The information in this section is based on the "GHS Classification Results" by NITE.

Indanofan	
Acute toxicity (oral)	Category 4
Acute toxicity (dermal)	No classification
Acute toxicity (gas)	No classification
Acute toxicity (vapour)	No classification
Acute toxicity (inhalation:dust/mist)	classification not possible
Skin corrosion/irritation	No classification
Serious eye damage/irritation	Category 2B
Respiratory sensitization	classification not possible
Skin sensitization	Category 1
Germ cell mutagenicity	classification not possible
Carcinogenicity	classification not possible
Reproductive toxicity	Category 2
STOT-single exposure	Category 1 Category 3 (Respiratory tract irritation.)
STOT-repeated exposure	Category 1 Category 2
Aspiration hazard	classification not possible

12. Ecological information

The information in this section is based on the "GHS Classification Results" by NITE.

Indanofan	
Hazardous to Aquatic Environment - Acute Hazard	classification not possible
Hazardous to Aquatic Environment - Chronic Hazard	classification not possible
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Hazardous to the ozone layer	classification not possible

13. Disposal considerations

Ecology - waste materials	: With the detail information of the waste, subcontract its disposal to a waste disposer authorized by a Prefectural Governor.
Contaminated container and packaging	: Empty the packaging completely prior to disposal. Empty containers should be taken for recycle, recovery or waste in accordance with local regulation.

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

Regulations in Japan

Regulatory information by sea : Not applicable
Regulatory information by air : Not applicable

Special transport precautions : When transporting, load containers so that they do not tip over, damage, drop or collapse. Make sure there is no leak in containers.

15. Regulatory information**National law**

Industrial Safety and Health Law : Chemical substances that damage the skin, etc. Harmful substances that cause skin irritation (Ordinance on Industrial Safety and Health, Article 594-2, Para.1, list of substances applicable to No. 0704 Item 1, 4 based on July 4, 2023)
【Date of enforcement: April 1, 2025】
Dangerous or Harmful Substances for Labeling of Chemical Name etc. (Act Art.57 Para.1, Enforcement Order, Art.18)
Dangerous or Harmful Substances for Notification of Chemical Name etc. on SDS (Act, Art.57-2, Enforcement Order, Art.18-2)
(RS)-2-[2-(3-chlorophenyl)-2,3-epoxypropyl]-2-ethylindane-1,3-dione (synonym:indanofan)

Japanese Poisonous and Deleterious Substances Control Law : Not applicable

Fire Service Law : Not applicable

Foreign Exchange and Foreign Trade Control Act : Export Trade Control Ordinance appendix 1-16

Japanese Pollutant Release and Transfer Register Law (PRTR Law) : Class 2 Designated Chemical Substances (Act Art.2 para.3, Enforcement Order Art.2 Appended Table No.2)
(RS)-2-[2-(3-Chlorophenyl)-2,3-epoxypropyl]-2-ethylindane-1,3-dione (synonym: Indanofan) (100%)

16. Other information

Data sources : Handbook of 17423 Chemical Products, The Chemical Daily Co, Ltd.
International Chemical Safety Cards.
National Institute of Technology and Evaluation (NITE).
2020 Emergency Response Guidebook (ERG 2020).

Other information : The SDS is copyrighted material of Hayashi Pure Chemical Ind, Ltd.
This Safety Data Sheet is intended to be provided for business operators who handle chemical substance products of the relevant product and is not intended to assure safety in any way. The Safety Data Sheet does not verify all the information on the applicable chemical substance in the present time. With the recognition in that unknown danger constantly exists in the relevant chemical substance, the product shall be used in the principle of self-responsibility of the user with the highest priority to safety from transport and unpacking to disposal. When the relevant chemical substance is used, the user him/herself shall collect safety information and shall investigate laws and regulations at the place, organizations, countries, etc. where the substance is actually used and give the highest priority to them. The Company shall take no responsibility for investigating state and local regulations and the user shall handle this problem on his/her own responsibility. In the event that SDS in Japanese and SDS translated into other languages exist, the document described in Japanese is prior to all other documents whether or not there is any difference in contents, and documents in other languages shall be references.