

SAFETY DATA SHEET

Version 8.2
Revision Date 15.10.2023
Print Date 02.05.2024

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Indole

Product Number : I3408

Brand : Aldrich

1.2 Other means of identification

1H-Benzo[b]pyrrole

1.3 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses.

1.4 Details of the supplier of the safety data sheet

Company :

Taiwan Merck & Co. Neihu
Taipei Crest Avenue
6th Floor, Sec 89

Merck KGaA
64271 Darmstadt
Germany
Phone: +49 6151 72-0

1.5 Emergency telephone

Emergency Phone : +(44)-870-8200418 (CHEMTREC (GB))
Number : +(353)-19014670 (CHEMTREC Ireland)
001-803-017-9114 (CHEMTREC India)

SECTION 2: Hazards identification

2.1 GHS Classification

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Dermal (Category 3), H311

Serious eye damage/eye irritation (Category 2A), H319

Short-term (acute) aquatic hazard (Category 1), H400

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word	Danger
Hazard statement(s)	
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
Precautionary statement(s)	
Prevention	
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response	
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 + P312	IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P391	Collect spillage.
Storage	
P405	Store locked up.
Disposal	
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Stench.

SECTION 3: Composition/information on ingredients

Substance / Mixture : Substance

3.1 Substances

Synonyms : 1H-Benzo[b]pyrrole

Formula : C₈H₇N

Molecular weight : 117.15 g/mol

CAS-No. : 120-72-9

EC-No. : 204-420-7

Hazardous ingredients

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Component	Classification	Concentration
indole 吲哚		
	Acute Tox. 4; Acute Tox. 3; Eye Dam./Irrit. 2A; Aquatic Acute 1; H302, H311, H319, H400 M-Factor - Aquatic Acute: 1	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 First aid methods for different exposure routes

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Protection of first responders and notes to physicians

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Nitrogen oxides (NO_x)

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Special Fire Fighting Procedures

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Disposal

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Air and light sensitive.

Storage class

Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|--|--|
| a) Physical state | flakes |
| b) Color | white, to, beige |
| c) Odor | characteristic |
| d) Melting point/freezing point | Melting point/range: 51 - 54 °C - lit. |
| e) Initial boiling point and boiling range | 253 - 254 °C - lit. |
| f) Flammability (solid, gas) | No data available |
| g) Explosion limit | No data available |
| h) Flash point | 121 °C - closed cup |
| i) Autoignition temperature | No data available |
| j) Decomposition temperature | > 253 °C |
| k) pH | No data available |
| l) Viscosity | Viscosity, kinematic: No data available
Viscosity, dynamic: No data available |
| m) Solubility(ies) | at 20 °C soluble in hot water |
| n) Partition coefficient: n-octanol/water | log Pow: 2.14 - (Lit.), Bioaccumulation is not expected. |
| o) Vapor pressure | 0.016 hPa at 25 °C |
| p) Density | 1.22 g/cm ³ at 20 °C |
| Relative density | No data available |
| q) Relative vapor density | No data available |
| r) Particle characteristics | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | none |

9.2 Other safety information

Relative vapor density	5.6
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SECTION 10: Stability and reactivity

10.1 Reactivity

Forms explosive mixtures with air on intense heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:
Strong oxidizing agents
Iron
iron(III) compounds

10.4 Conditions to avoid

Air Light.
Strong heating.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 1,000 mg/kg

Remarks: (RTECS)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Inhalation: Irritating to respiratory system.

LD50 Dermal - Rabbit - 790 mg/kg

Remarks: (RTECS)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 24 h

Remarks: (ECHA)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye irritation. - 24 h

Remarks: (ECHA)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium
Result: negative
Remarks: (Lit.)
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

RTECS: NL2450000

Nausea, Headache, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Ecotoxicity

Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 1 mg/l - 48 h Remarks: (Lit.)
Toxicity to algae	static test EC50 - Scenedesmus acuminatus - 9.42 mg/l - 96 h Remarks: (ECHA)
Toxicity to bacteria	microtox test EC50 - Photobacterium phosphoreum - 2.4 mg/l - 30 min Remarks: (Lit.)

12.2 Persistence and degradability

Biodegradability	Result: 100 % - Readily biodegradable. (OECD Test Guideline 301B)
Biochemical Oxygen Demand (BOD)	2,070 mg/g Remarks: (Lit.)

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Theoretical oxygen demand	2,460 mg/g Remarks: (Lit.)
Ratio BOD/ThBOD	84 % Remarks: (Lit.)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

SECTION 13: Disposal considerations

13.1 Disposal method

Product

The chemical must be disposed or recycled in accordance with Waste Disposal Act. See www.epa.gov.tw for the information of chemical waste disposal companies and their contacts. Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 2811	IMDG: 2811	IATA-DGR: 2811
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14.2 UN proper shipping name

ADR/RID:	TOXIC SOLID, ORGANIC, N.O.S. (indole) (indole)
IMDG:	TOXIC SOLID, ORGANIC, N.O.S. (indole) (indole)
IATA-DGR:	Toxic solid, organic, n.o.s. (indole) (indole)

14.3 Transport Hazard Classification

ADR/RID: 6.1	IMDG: 6.1	IATA-DGR: 6.1
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14.4 Packing category

ADR/RID: III	IMDG: III	IATA-DGR: III
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14.5 Marine Pollutants (yes/no)

ADR/RID: yes	IMDG Marine pollutant: yes	IATA-DGR: no
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14.6 Special precautions for user

None

14.7 Incompatible materials

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Rules on Road Traffic Safety
Regulations on Occupational Safety and Health
Facilities
Standards for the Storage, Cleanup, Handling and
Disposal of Industrial Waste
Regulations on Labelling and Hazard Communication
of Hazardous Chemicals

SECTION 16: Other information

-Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Literature references	About detail information, please refer to each section The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.
Organization that prepared the SDS	Name:Merck KGaA LS-QH Address/Telephone number:64271 Darmstadt Germany/+49 6151 72-0

Date that the SDS was prepared	15.10.2023	Print Date	02. 05. 2024
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