



SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Version 3.0

Immersol (TM) HI 661

Material: 000000-0616-325

Revision date: 27.07.2023

Date of last issue: 27.07.2023

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

1.1 Product identifier

Product name : Immersol(TM) HI 661
Unique Formula Identifier (UFI) : 3H30-X03V-7003-X3X1

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

Use of the Sub-stance/Mixture : Life Sciences, Research and Development
Industrial and professional use
High refractive index Immersion oil, halogen-free

1.3 Details of the supplier of the safety data sheet

Manufacturer/supplier : Carl Zeiss Jena GmbH
Oberkochen location
Address : Carl-Zeiss-Straße 22
D-73447 Oberkochen
Telephone : +49 7364 20-0
Technical Information : Chemical and material engineering
Telephone : +49 7364 20-4599
Telefax : +49 7364 20-4521
Product Safety : Chemical and material engineering
E-mail address : SDS@zeiss.com

1.4 Emergency telephone number

Poisoning Control Center : +49 551 19240 (24 hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin irritation, Category 2	H315: Causes skin irritation.
Long-term (chronic) aquatic hazard, Category 4	H413: May cause long lasting harmful effects to aquatic life.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)



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Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	H302 Harmful if swallowed. H315 Causes skin irritation. H413 May cause long lasting harmful effects to aquatic life.
Precautionary statements	:	Prevention: P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment. Response: P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P332 + P313 If skin irritation occurs: Get medical advice/attention.

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixture based on thiourethanes.

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Diphenyl sulphide	139-66-2 205-371-4	Acute Tox. 4; H302 Skin Irrit. 2; H315 Aquatic Chronic 4; H413	60 - 65

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Remove and wash contaminated clothing before re-use.
If symptoms occur or if in doubt, seek medical advice.

If inhaled : Provide with fresh air.



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- In case of skin contact : Wash off with soap and plenty of water.
In the case of skin irritation or allergic reactions see a physician.
- In case of eye contact : Rinse immediately with plenty of water for at least 5 minutes.
Consult a physician.
- If swallowed : Rinse mouth.
Only trained first-aid staff may induce vomiting.
Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : The most important known symptoms and effects are described in section 2 and / or section 11.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO₂)
Dry chemical
Foam
Water spray jet

- Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : In case of fire formation of carbonoxides and other toxic gases/vapors is possible.
(see section 10).
In the event of fire and/or explosion do not breathe fumes.

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

- Further information : Avoid extinguishing water reaching water, ground water or sewage system.
Dispose extinguishing water according the local, official regulations.



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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Avoid contact with skin, eyes and clothing.
Use personal protective equipment.
Do not breathe vapor/aerosol.
Ensure adequate ventilation.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

Adequate disposal, For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.
Wear personal protective equipment.
Provide sufficient air exchange and/or exhaust in work rooms.
Advice on protection against fire and explosion : Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep only in the original container. Keep tightly closed. Keep away from direct sunlight.
Advice on common storage : Keep away from food and drink.
Keep away from incompatible material.
Recommended storage temperature : 12 - 28 °C

7.3 Specific end use(s)

Specific use(s) : Apart from the uses mentioned in section 1 no other specific uses are intended.



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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

None.

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Goggles

Hand protection

Material : e.g. butyl rubber
Break through time : > 480 min
Glove thickness : 0.7 mm

Material : e.g. nitrile rubber
Break through time : > 30 min
Glove thickness : 0.4 mm

Remarks : Use protective gloves which have been adapted to the respective purpose and are appropriately resistant to chemicals (DIN EN 374). The "Regulations for the use of protective gloves" (BGR 195) contain information on what gloves to choose and for what purpose they should be used. Ask the glove supplier for the penetration time of the glove material. (in full contact)
(in splash contact)

Skin and body protection : closed work clothing
Keep working clothes separately.

Respiratory protection : Not required; except in case of aerosol formation.

Protective measures : Avoid contact with skin, eyes and clothing.

Take off all contaminated clothing immediately.

When using do not eat, drink or smoke.

Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid
Colour : pale yellowish
Odour : like organic sulphur
Flash point : > 110 °C

Decomposition temperature : No data available

pH : Not applicable



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Viscosity
Viscosity, kinematic : 30 - 40 mm²/s (20 °C)
Method: DIN 51562

Solubility(ies)
Water solubility : insoluble

Partition coefficient: n-
octanol/water : log Pow: 4.45 (25 °C)

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : Violent reactions are possible with oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid : Strong heating.

10.5 Incompatible materials

Materials to avoid : Strong oxidizing agents

10.6 Hazardous decomposition products

Carbon monoxide
carbon dioxide
not completely burned hydrocarbons
Hydrogen sulphide
Sulphur oxides
and other toxic gases and vapors
Hazardous decomposition : None known.
products

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product:



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Acute oral toxicity : Acute toxicity estimate: 877 mg/kg

Components:

Diphenyl sulphide:

Acute oral toxicity : LD50 (Rat): 544 mg/kg
Method: RTECS

Acute dermal toxicity : LD50 (Rabbit): 12,543 mg/kg
Method: RTECS

Skin corrosion/irritation

Product:

Remarks : Causes skin irritation.

Components:

Diphenyl sulphide:

Species : Rabbit
Method : RTECS
Result : irritating
Remarks : Skin irritation

Serious eye damage/eye irritation

Product:

Remarks : None known.

Components:

Diphenyl sulphide:

Species : Rabbit
Remarks : Eye irritation

Respiratory or skin sensitisation

Product:

Remarks : None known.

Germ cell mutagenicity

Product:

Germ cell mutagenicity- Assessment : No data available



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Carcinogenicity

Product:

Carcinogenicity - Assessment : No data available

Reproductive toxicity

Product:

Reproductive toxicity - Assessment : No data available

STOT - single exposure

Product:

Remarks : No data available

Aspiration toxicity

Product:

No data available

11.2 Information on other hazards

Further information

Product:

Remarks : No data is available on the product itself.
Other dangerous properties can not be excluded.
The product should be handled with the care usual when dealing with chemicals.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Due to the distribution coefficient n-octanol/water,



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accumulation in organisms is possible.

Components:

Diphenyl sulphide:

Partition coefficient: n-octanol/water : log Pow: 4.45 (25 °C)

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : Remarks: Not applicable

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Product:

Environmental fate and pathways : No data available

Additional ecological information : No data is available on the product itself.
Do not discharge into sewerage system, surface water or soil.
Adequate disposal

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : In accordance with local and national regulations.

Contaminated packaging : Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good

IATA : UN 3334

14.2 UN proper shipping name

ADR : Not regulated as a dangerous good



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Other regulations:

Follow Directive 94/33/EC on the protection of young people at work and its national implementations.

Follow Directive 92/85/EC on the protection of pregnant workers and workers who have recently given birth or are breastfeeding, and its national implementations.

15.2 Chemical safety assessment

Not required.

SECTION 16: Other information

Full text of H-Statements

H302 : Harmful if swallowed.
H315 : Causes skin irritation.
H413 : May cause long lasting harmful effects to aquatic life.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Chronic : Long-term (chronic) aquatic hazard
Skin Irrit. : Skin irritation

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet;



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SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information : Relevant changes to the previous version are symbolized by vertical bars at the left edge.

Sources of key data used to compile the Safety Data Sheet : Reg. 1272/2008, Annex VI
TRGS 900
TRGS 903
International dangerous goods regulations
Supplier details

The information in this safety sheet is based on the data available at the time of compilation and is intended to describe the product with respect to the precautions to be taken in its use. This information is provided without any guarantee of the properties specified.

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