



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

Version 4.0

Immorsol 518 F / 30°C

Material: 000000-0559-055

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 : Immorsol(TM) 518 F / 30 °C
Unique Formula Identifier (UFI) : RP20-V06W-5004-AQ3D

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
Immersion oil for fluorescence-microscopy, halogen-free, low fluorescence

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)

Skin irritation, Category 2 H315: Causes skin irritation.
Long-term (chronic) aquatic hazard, Category 2 H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)



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Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	H315 Causes skin irritation. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	:	Prevention: P273 Avoid release to the environment. P280 Wear protective gloves. Response: P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Halogen-free immersion oil based on ester oil.

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester	195371-10-9 430-080-6 01-0000017636-64	Skin Irrit. 2; H315	30 - 35
Succinic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester	195371-13-2	Skin Irrit. 2; H315	25 - 30
Bis (isopropyl) naphthalene	38640-62-9 254-052-6 01-2119565150-48	Asp. Tox. 1; H304 Aquatic Chronic 1; H410	15 - 20

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.



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- If inhaled : In the case of inhalation of aerosol/mist consult a physician if necessary.
- 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 : Immediately flush eye(s) with plenty of water.
If eye irritation persists, consult a specialist.
- If swallowed : Rinse mouth.
Do not give anything to drink or eat.
Do NOT induce vomiting.
Get medical attention.

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
Sand
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.

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Use water spray to cool unopened containers.
Avoid extinguishing water reaching water, ground water or



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sewage system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Avoid contact with skin, eyes and clothing.
Ensure adequate ventilation.
Risk of slipping because of leaked / spilled product

6.2 Environmental precautions

Environmental precautions : Prevent discharge into sewerage system, soil or aquatic environment.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material.
Clean contaminated surface thoroughly.

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.
Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store at room temperature in the original container. Keep tightly closed.
Advice on common storage : Keep away from food and drink.
Do not mix with other immersion liquids.

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

None.



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8.2 Exposure controls

Personal protective equipment

Eye/face protection : Avoid contact with eyes, if necessary wear eye protection.
Hand protection

Remarks : Avoid contact with skin. Use protective gloves which have been adapted to the respective purpose and are appropriately resistant to chemicals (DIN EN 374). Ask the glove supplier for the penetration time of the glove material.

Skin and body protection : closed work clothing
Respiratory protection : Not required; except in case of aerosol formation.
Protective measures : Take off all contaminated clothing immediately.
Wash hands before breaks and at the end of workday.
Preventive skin protection

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid
Colour : colourless
Odour : slight, aromatic
Boiling point/boiling range : > 250 °C

Flash point : 218 °C
Method: open cup

pH : Not applicable

Viscosity
Viscosity, kinematic : 320 mm²/s (40 °C)
Method: DIN 51562

Solubility(ies)
Water solubility : insoluble

Density : 1.009 g/cm³ (20 °C)
Method: DIN 51757

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available



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10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : None known.

10.4 Conditions to avoid

Conditions to avoid : Protect from heat, heating sources and direct insolation.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products : No decomposition if used as directed.

SECTION 11: Toxicological information

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

Acute toxicity

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: Directive 96/54/EG, B.1

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402

Bis (isopropyl) naphthalene:

Acute oral toxicity : LD50 (Rat): > 4,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5.6 mg/l
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat): > 4,000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Product:

Remarks : Irritating to skin.



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

Version 4.0

Immersol 518 F / 30°C

Material: 000000-0559-055

Revision date: 27.07.2023

Date of last issue: 27.07.2023

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Species : Rabbit
Exposure time : 4 h
Method : Directive 92/69/EWG, B.4
Result : Skin irritation

Bis (isopropyl) naphthalene:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Serious eye damage/eye irritation

Product:

Remarks : May irritate eyes.

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Species : Rabbit
Method : Directive 92/69/EWG, B.5
Result : No eye irritation

Bis (isopropyl) naphthalene:

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

Respiratory or skin sensitisation

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Species : guinea-pig
Method : Richtlinie 96/54/EG, B.6
Result : Not sensitizing.

Bis (isopropyl) naphthalene:

Species : guinea-pig
Method : OECD Test Guideline 406
Result : Not sensitizing.



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

Version 4.0

Immersol 518 F / 30°C

Material: 000000-0559-055

Revision date: 27.07.2023

Date of last issue: 27.07.2023

Germ cell mutagenicity

Product:

Germ cell mutagenicity- Assessment : No data available

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Germ cell mutagenicity- Assessment : Cytogenetic test (chromosome aberration), chinese hamster: No reference to mutagenic effects. (OECD TG 473)

Ames-Test, salmonella typhimurium: No reference to mutagenic effects. (EEC B 14)

Bis (isopropyl) naphthalene:

Germ cell mutagenicity- Assessment : negative

Carcinogenicity

Product:

Carcinogenicity - Assessment : No data available

Components:

Bis (isopropyl) naphthalene:

Carcinogenicity - Assessment : negative

Reproductive toxicity

Product:

Reproductive toxicity - Assessment : No data available

Components:

Bis (isopropyl) naphthalene:

Reproductive toxicity - Assessment : negative
negative

STOT - single exposure

Product:

Remarks : No data available



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

Version 4.0

Immersol 518 F / 30°C

Material: 000000-0559-055

Revision date: 27.07.2023

Date of last issue: 27.07.2023

STOT - repeated exposure

Product:

Remarks : No data available

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Repeated dose toxicity - Assessment : NOAEL oral, rat: 500 mg/kg (Testing period: 28 d, Subsequent observation period: 48 d, OECD TG 407)

Aspiration toxicity

Product:

The classification criteria are not met by the available data.

11.2 Information on other hazards

Further information

Product:

Remarks : No data is available on the product itself.
The product is classified in accordance with EC directive / regulation.
Handle in accordance with good industrial hygiene and safety practice.

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Remarks : The product should be handled with the care usual when dealing with chemicals.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Toxicity to fish : LC50 (Cyprinus carpio): > 5.4 mg/l
Exposure time: 96 h



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

Version 4.0

Immersol 518 F / 30°C

Material: 000000-0559-055

Revision date: 27.07.2023

Date of last issue: 27.07.2023

Method: Directive 92/69/EWG C.1

LC0 (Cyprinus carpio): ≥ 5.40 mg/l

Exposure time: 96 h

Method: Directive 92/69/EWG C.1

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): > 6.1 mg/l
Exposure time: 48 h

Method: Directive 92/69/EWG C.2

EC0 (Daphnia (water flea)): ≥ 6.10 mg/l

Exposure time: 48 h

Method: Directive 92/69/EWG C.2

NOEC (Daphnia (water flea)): 1.6 mg/l

Exposure time: 504 h

Analytical monitoring: yes

Remarks: chronic toxicity to daphnia

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 3.6 mg/l
Exposure time: 72 h

Method: Directive 92/69/EWG C.3

NOEC (Desmodesmus subspicatus (green algae)): ≥ 3.6 mg/l

Exposure time: 72 h

Method: Directive 92/69/EWG C.3

Toxicity to microorganisms : EC10 (activated sludge): $> 1,000$ mg/l

Exposure time: 3 h

Method: EG L133/118 (5.88)

Remarks: to respiration inhibition test applies EC50

Bis (isopropyl) naphthalene:

Toxicity to fish : LC0 (Fish): 0.5 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LL50 (Daphnia (water flea)): 1.7 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

EC0 (Daphnia (water flea)): 0.16 mg/l

Exposure time: 48 h

Method: DIN 38412

NOEC (Daphnia (water flea)): 13 mg/l

Exposure time: 21 DAY

Method: OECD Test Guideline 202



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according to Regulation (EC) No. 1907/2006

Version 4.0

Immersol 518 F / 30°C

Material: 000000-0559-055

Revision date: 27.07.2023

Date of last issue: 27.07.2023

Toxicity to algae/aquatic plants : EC0 (algae): 0.15 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

12.2 Persistence and degradability

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 13 %
Exposure time: 28 days
Method: Modified Sturm Test

Bis (isopropyl) naphthalene:

Biodegradability : Result: Not readily biodegradable.

Physico-chemical removability : Remarks: May be separated mechanically in waste water plants.

12.3 Bioaccumulative potential

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Partition coefficient: n-octanol/water : log Pow: 8.9 (25 °C)
Method: Directive 92/69/EWG A.8

Bis (isopropyl) naphthalene:

Partition coefficient: n-octanol/water : log Pow: > 4

12.4 Mobility in soil

Components:

Adipic acid-di(8-methyl-tricyclo (5.2.1.0.2.6.) decane) ester:

Mobility : Remarks: KOC: 50.000 (water, soil), (Method: OECD TG 121)

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

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Version 4.0

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ADR : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADR
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (E)

IMDG
Packing group : III
Labels : 9
EmS Code : F-A, S-F

IATA (Cargo)
Packing group : III
Labels : Miscellaneous

IATA (Passenger)
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

ADR
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the 1.3.2 - E2



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

Version 4.0

Immersol 518 F / 30°C

Material: 000000-0559-055

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control of major-accident hazards involving dangerous substances.

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

H304 : May be fatal if swallowed and enters airways.
H315 : Causes skin irritation.
H410 : Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Chronic : Long-term (chronic) aquatic hazard
Asp. Tox. : Aspiration 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



SAFETY DATA SHEET
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Version 4.0

Immersol 518 F / 30°C

Material: 000000-0559-055

Revision date: 27.07.2023

Date of last issue: 27.07.2023

tative) 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; 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.

MT / EN