

Safety Data Sheet

according to EC directive 93/112 EC



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1. Identification of the substance/ preparation and the company/undertaking

Trade Name	Immersion Oil (Cat. Nr. 11513860 and 11513861)
Supplier	Leica Microsystems CMS GmbH Postbox 2040 35530 Wetzlar
Phone	+49(0)6441-29-0
Manufacturer	Carl Zeiss Carl-Zeiss-Str. 22 D-73447 Oberkochen
Emergency telephone number	Giftinformation Mainz +49(0)6131-19240

2. Composition/information on ingredients

Chemical characterisation	Halogen free immersion oil based on ester oil and synthetic hydrocarbons
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Description	CAS-No.	Concentration	Symbol(e)	R-phrase(s)
Di(TCD-Methylol)-adipat*	195371-10-9	40,00-50,00 %	Xi,	R38-R53

3. Hazards identification

Description of hazards	Irritation to skin
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4. First aid measures

General advice	Remove and wash contaminated clothing before re-use.
Inhalation	Provide with fresh air.
Skin contact	Wash off with soap and plenty of water. If skin irritation persists, call a physician.
Eye contact	Rinse immediately with plenty of water for at least 5 minutes. If eye irritation persists, consult a specialist.
Ingestion	Rinse mouth- Do not induce vomiting. Call a physician.

5. Fire-fighting measures

Suitable extinguishing media	Water spray jet, dry chemical, foam, carbon dioxide (CO ₂)
Extinguishing media which must not be used for safety reasons	High volume water jet.
Hazards caused by the substance/ combustion products/origin of gases	In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for fire-fighters	In the event of fire, wear self-contained breathing apparatus

6. Accidental release measures

Personal precautions	Avoid contact with skin, eyes and clothing.
Environmental precautions	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.
Removal	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Adequate disposal.

7. Handling and storage

Handling	
Safe handling advice	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes.
Advice on protection against fire and explosion	Normal measures of preventive fire protection.
Storage	
Requirements for storage areas and containers	Keep only in the original container. Keep tightly closed. Protect from direct insolation.
Incompatibilities/not to be stored with	Keep away from food and drink. Do not mix with other immersion liquids.
Storage stability	
Storage temperature	12 – 28 °C

8. Exposure controls/personal protection**Components with workplace control parameters**

Components	CAS-No.	Value	Basis	Concentration
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Note None

Personal protective equipment

Protective measures	Avoid contact with skin and eyes. Take off all contaminated clothing immediately. Wash hands before breaks and at the end of workday.
Respiratory protection	Not required under normal use.
Hand protection	Protective gloves
Eye protection	Safety glasses
Skin and body protection	Keep working clothes separately.

9. Physical and chemical properties

Appearance	
Form	Liquid
Colour	Colourless
Odour	Very faint
Other data	
Flash point	<150 °C (ISO 2592)
Density	0,976 g/cm ³ at 20 °C (DIN 51757)
Water solubility	Insoluble
Viscosity, kinematic	955 mm ² /s at 20 °C (DIN 51562/1)
Viscosity, kinematic	740 mm ² /s at 23 °C (DIN 51562/1)

10. Stability and reactivity

Thermal decomposition	No decomposition if stored and applied as directed.
Hazardous reactions	None known
Conditions to avoid	Protect from heat, heating sources and direct insolation.
Material to avoid	Do not mix with other immersion liquids.
Hazardous decomposition products	None known.

11. Toxicological information

Acute oral toxicity	LD50 rat > 2000 mg/kg
Skin irritation	May cause skin irritation.
Sensitization	None known.
Other information on toxicity	The preparation itself is not examined. The data refer to the specifications of the ingredients. Further hazardous properties cannot be excluded.

12. Ecological information

Other ecological information	
Other data	No data is available on the product itself. Do not discharge into sewerage , surface water or soil.

13. Disposal considerations

Product	In accordance with local and national regulations.
Uncleaned packaging	Dispose of as unused product. Offer rinsed packaging material to local recycling facilities.

14. Transport information

Further information	Not classified as dangerous in the meaning of transport regulations
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15. Regulatory information**Labelling according to EEC Directive****Code letter and hazard labelling of product**

XI Irritant
 Hazardous components which must be on the label

R-phrase(s)

R38 Irritating to skin.

S- phrase(s)

S37 Wear suitable gloves

Other data Caution- this preparation contains a substance not yet fully tested. For Research and Development use only!

16. Other information

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.

Technical Information

Immersion Oil

Order No.: 20 ml 11513860
250 ml 11513861



Range of application	Standard oil for microscopy, according to DIN 58884 and ISO 8036-1. Suitable for preparations without cover glass, also for long-lasting preparations; remains completely inert when coloured with Azur, Eosin, Fuchsin, Giemsas, Crystallviolett, Leisham, Methylenblue, Rhodamin. Not to be applied for Sudan dyes.
Chemical basis	Ester oils, synthetic hydrocarbons, halogen-free
Optical characteristics	
➤ n_e (546,1 nm)	1,5180
➤ n_D (589,3 nm)	1,5150
➤ n_g (435,8 nm)	1,5307
➤ n_F (480,0 nm)	1,5243
➤ n_C (643,8 nm)	1,5119
➤ temperature coefficient Δn (ϑ), range 10/40 °C	-0,00039/°C
➤ dispersion v_e	41,8
Transmission (d= 10 mm)	
➤ 450-850 nm [%T]	99
➤ 420 nm	98
➤ 400 nm	97
➤ 380 nm	93
➤ 365 nm	88
➤ 350 nm	77
➤ 340 nm	31
➤ 330 nm	>0,001
Self fluorescence [mg/] Quinine-Sulphate equivalent	
➤ F (365 nm/450 nm)	max. 0,25
➤ F (405 nm/485 nm)	max. 8,0
[stimulating light band/emission] of fluorescence-maximum]	
Density at 20 °C	0,975 g/cm ³
Viscosity at 20 °C	765 mm ² /s
at 23 °C	600 mm ² /s
at 40 °C	190 mm ² /s
Flash point (open cup)	ca. 195 °C
Recommended detergents	Cyclohexane, Methylcyclohexane, Petrolether 40/60
Crystallisation risk at storage below 18 °C	A clouding caused by crystallisation may very rarely occur when stored for a quite long period of time. Solution of crystals will be obtained by tempering at 50 °C (1-2 hours) in original bottle. There will be no qualitative disadvantages for the immersion oil by this procedure. Attention: No tempering of closed bottles, danger of bursting!
Storage conditions	To be stored in original container at a temperature from 18 – 28 °C, keep container sealed, protect from direct solar radiation.
Disposal reference	Dispose as halogen-free mixture of solvents
Attention	Do not mix with other immersion oils, do not return used oil into original storage bottle.
The information of this data sheet has been prepared to the best of our knowledge and is based on the state of our know – how. The declarations serve for the purpose of information and shall deliver instructions for possible applications to technically experienced readers. Guarantees for characteristics, liability of producer or warranties are excluded without our prior clarification of the application conditions.	