



SAFETY DATA SHEET

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

1.1. Product identifier

Product name: Immersion Oil Type N
Product code: MXA22202: 8cc
MXA22203: 50cc
MXA22204: 480cc

Unique Formula Identifier:

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

Relevant identified uses: Microscope Immersion Oil
(SU24: Scientific research and development)
Uses advised against: No information

This product should be used under the following conditions;

- Pressure: 101,32 kPa (760 mm Hg)
- Temperature: 7°C to 40°C (45°F to 104°F)
- in a non misted/non airborne state
- in a room having normal air changes/hour
- in a trained and supervised laboratory/industrial setting using standard Good laboratory/Good Manufacturing procedures

1.3. Details of the supplier of the safety data sheet

Name of importer: Nikon Europe B.V.
Department in Charge Marketing
Address Stroombaan 14, 1181 VX Amstelveen, The Netherlands

Telephone number +31-20-7099-000
Fax number —
e-mail address microscope.eu@nikon.com

Name of manufacturer Cargille Laboratories
Address 55 Commerce RoadCedar Grove, NJ 07009-1289 USA

Name of supplier in Japan: NIKON CORPORATION
Department in Charge Healthcare Business Unit
Address Yokohama Plant
471, Nagaodai-cho, Sakae-ku, Yokohama, Kanagawa 244-8533

Telephone number +81-45-853-8608
Fax number +81-45-853-8485
e-mail address —

1.4. Emergency telephone number at 9 a.m ~5 p.m JST

+81-45-853-8608

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008:

Skin Irrit.2: H315
STOT SE.3: H335
STOT RE.2: H373
Aquatic Chronic.1: H410

2.2. Label elements

Hazard pictograms



Signal word

Hazard Statements

Warning

H315: Causes skin irritation
H335: May cause respiratory irritation
H373: May cause damage to liver through prolonged or repeated exposure
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements

[Prevention]

P260: Do not breathe dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

[Emergency response]

P314: Get medical advice/attention if you feel unwell.
P391: Collect spillage.

Supplemental hazard information

Not applicable

2.3. Other hazards

Hydrogenated terphenyls meets the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

The product does not have substances identified as having endocrine disrupting properties according to Regulation (EU) 2017/2100.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Product Name:

Immersion Oil Type N



Information on ingredients:

Chemical name	CAS RN	EC No.	Index No.	REACH Registration No.*	Concentration (wt %)	Classification**	Specific Concentration limits/ M-factor/ Acute Toxicity Estimate
Paraffins (petroleum), normal C ₅₋₂₀	-	-	-	01-21199 30064-48 -XXXX	25 - 50	Asp.Tox.1:H304	-
Hydrogenated terphenyls	-	-	-	01-21194 88183-33 -XXXX	25 - 50	Skin Irrit.2:H315 STOT SE.3:H335 STOT RE.2:H373 (liver) Aquatic Chronic.4:H413	ATE (Oral): Rat LD ₅₀ = 6,600 mg/kg - 17,500 mg/kg ATE (Dermal): Rabbit LD ₅₀ > 2,000 mg/kg ATE (Inhalation): Rat 4hr-LC ₅₀ > 4.7 mg/L Rat 4hr-LC ₅₀ > 4.3 mg/L
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	-	-	-	-	25 - 50	Asp. Tox.1:H304 Skin Irrit.2:H315	-
Terphenyl	-	-	-	01-21194 88220-43 -XXXX	1 - 2.5	Aquatic Chronic.1:H410	ATE (Oral): Rat LD ₅₀ = 17,500 mg/kg ATE (Dermal): Rabbit LD ₅₀ > 12,500 mg/kg

* Registration numbers of ingredients which shall be in compliance with Regulation (EC) No 1907/2006 will be filled in later.

** Full texts of relevant hazard statements and risk phrases can be seen in SECTION 16 of this SDS.

SECTION 4: First aid measures

4.1. Description of first aid measures

GENERAL ADVICE	If you feel unwell, call doctor/physician.
IF INHALED	Supply fresh air; consult doctor in case of complaints.
IF ON SKIN	Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.
IF IN EYES	Remove contact lenses if worn. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
IF SWALLOWED	Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately.
Self-Protection of the First Aider	Wear appropriate eyes and skin protective equipment.



4.2. Most important symptoms and effects, both acute and delayed

- Gastric or intestinal disorders when ingested.
- Causes skin irritation.
- May cause respiratory irritation.
- May cause damage to liver through prolonged or repeated exposure.

4.3. Indication of any immediate medical attention and special treatment needed

- If medical advice is needed, have product container or label at hand.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

- Foam, fire-extinguishing powder, gaseous extinguishing agents, carbon dioxide, water haze or fog

Unsuitable extinguishing media

- Water with full jet

5.2. Special hazards arising from the substance or mixture

- Formation of toxic gases is possible during heating or in case of fire.

5.3. Advice for firefighters

- Wear self-contained respiratory protective device.
- Wear fully protective suit.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

- Wear protective equipment.

For emergency responders:

- Keep unprotected persons away.
- Ensure adequate ventilation.

6.2. Environmental precautions

- Do not allow to enter sewers/ surface or ground water.
- Inform respective authorities in case of seepage into water course or sewage system.

6.3. Methods and material for containment and cleaning up

- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- Send for recovery or disposal in suitable receptacles.



6.4. Reference to other sections

Refer to “SECTION 8: Exposure controls/personal protection” and “SECTION 13: Disposal considerations” as appropriate.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures:

Avoid splashes or spray in enclosed areas.

Advice on general occupational hygiene:

Keep away from foodstuffs, beverages and feed.
Take off contaminated clothing and wash it before reuse.
Wash hands before breaks and at the end of work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures:

No special measures required.

Incompatible materials:

Store away from oxidisers, strong acids, strong bases.

Conditions for safe storage:

Avoid storage near extreme heat, ignition sources or open flame.
Store in a well-ventilated place. Keep cool.
Store away from foodstuffs.
Further information about storage conditions:
Storage Temperatures: 65 - 90°F/18 - 32°C.
Keep container tightly sealed.

Packing material:

Use a sealed container without damage or leakage.

7.3. Specific end use(s)

Microscope Immersion Oil

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acceptable concentration (exposure limit, biological exposure index)

EU IOELV (2017)	2 ppm, 19 mg/m ³ (Hydrogenated terphenyls)
Long-term exposure limit values (8 hours)	



EU IOELV (2017)	5 ppm, 48 mg/m ³ (Hydrogenated terphenyls)
Short-term exposure limit values (15 minutes)	
ACGIH TLV-TWA (2022)	Applicable (Hydrogenated terphenyls)
ACGIH TLV-STEL (2022)	Applicable (Terphenyl)

8.2. Exposure controls

Appropriate engineering controls:

The usual precautionary measures are to be adhered to when handling chemicals.
Do not inhale gases/fumes/aerosols.
Avoid contact with the eyes and skin.

Personal protective equipment:

Respiratory protection	Not required under normal conditions of use.
Hand protection	Protective gloves The glove material has to be impermeable and resistant to the product/the substance/the preparation.
Eye protection	Safety glasses Follow relevant national guidelines concerning the use of protective eyewear.
Skin and body protection	Protective work clothing

Environmental exposure controls

Prevent product from entering drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Oily liquid
Colour	Colourless to light yellow
Odour	Slight odour
Melting point/freezing point	0°C
Boiling point or initial boiling point and boiling range	340°C (1 atm/1.0132 bar)
Flammability	Not applicable
Lower and upper explosion limit	No information
Flash point	163°C (Open Cup)
Auto-ignition temperature	No information
Decomposition temperature	No information
pH	No information
Kinematic viscosity	> 20.5 mm ² /sec (40°C) (DIN 53211/4) Dynamic: > 100 cSt (23°C)
Solubility	Water: Not miscible or difficult to mix.



Partition coefficient n-octanol/water (log value)	No information
Vapour pressure	< 0.133 hPa (< 0.1 mm Hg)
Density and/or relative density	Density: 0.923 g/cm ³ (25°C)
Relative vapour density	No information
Particle characteristics	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosives	No information
Flammable gases	No information
Aerosols	Not applicable
Oxidising gases	No information
Gases under pressure	Not applicable
Flammable liquids	No information
Flammable solids	Not applicable
Self-reactive substances and mixtures	Not applicable
Pyrophoric liquids	No information
Pyrophoric solids	Not applicable
Self-heating substances and mixtures	Not applicable
Substances and mixtures, which emit flammable gases in contact with water	Not applicable
Oxidizing liquids	No information
Oxidizing solids	Not applicable
Organic peroxides	No information
Corrosive to metals	Not applicable
Desensitised explosives	Not applicable

9.2.2 Other safety characteristics

Mechanical sensitivity	No information
Self-accelerating polymerisation temperature	No information
Formation of explosible dust/air mixtures	No information
Acid/alkaline reserve	No information
Evaporation rate	< 1.0 (20°C) (n-Butyl Acetate = 1.0)
Miscibility	No information
Conductivity	No information
Corrosiveness	No information
Gas group	No information
Redox potential	No information
Radical formation potential	No information
Photocatalytic properties	No information



SECTION 10: Stability and reactivity

10.1. Reactivity

No further relevant information available.

10.2. Chemical stability

Stable under normal temperatures and pressures.

10.3. Possibility of hazardous reactions

Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised.

10.4. Conditions to avoid

Excessive heat.

Store away from oxidising agents.

10.5. Incompatible materials

Reacts with strong oxidising agents.

Reacts with strong acids and alkali.

10.6. Hazardous decomposition products

No decomposition if used and stored according to specifications.

Under fire conditions only: Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

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

Information on product:

Acute toxicity (oral):	No information
Acute toxicity (dermal):	No information
Acute toxicity (inhalation: gas):	No information
Acute toxicity (inhalation: vapour):	No information
Acute toxicity (inhalation: dust/mist):	No information
Skin corrosion/irritation:	Causes skin irritation. Irritating to skin.
Serious eye damage/irritation:	No information
Respiratory sensitization:	No information
Skin sensitization:	No information
Germ cell mutagenicity:	No information
Carcinogenicity:	No information
Reproductive toxicity:	No information
STOT-single exposure:	No information
STOT-repeated exposure:	No information
Aspiration hazard:	No information
Other toxicological information	Probable routes of exposure: Ingestion, Inhalation, Eye contact, Skin contact.



Information on ingredients:

Paraffins (petroleum), normal C₅₋₂₀

Acute toxicity (oral):	No information
Acute toxicity (dermal):	No information
Acute toxicity (inhalation: gas):	No information
Acute toxicity (inhalation: vapour):	No information
Acute toxicity (inhalation: dust/mist):	No information
Skin corrosion/irritation:	No information
Serious eye damage/irritation:	No information
Respiratory sensitization:	No information
Skin sensitization:	No information
Germ cell mutagenicity:	No information
Carcinogenicity:	No information
Reproductive toxicity:	No information
STOT-single exposure:	No information
STOT-repeated exposure:	No information
Aspiration hazard:	May be fatal if swallowed and enters airways

Hydrogenated terphenyls

Acute toxicity (oral):	Rat LD ₅₀ = 6,600 mg/kg - 17,500 mg/kg
Acute toxicity (dermal):	Rabbit LD ₅₀ > 2,000 mg/kg
Acute toxicity (inhalation):	Rat 4hr-LC ₅₀ > 4.7 mg/L Rat 4hr-LC ₅₀ > 4.3 mg/L (OECD TG 403, GLP)
Skin corrosion/irritation:	In a skin irritation test with rabbits, moderate irritation was observed.
Serious eye damage/irritation:	No information
Respiratory sensitization:	No information
Skin sensitization:	No information
Germ cell mutagenicity:	No information
Carcinogenicity:	No information
Reproductive toxicity:	No information
STOT-single exposure:	About humans, there are descriptions that "irritation on an upper respiratory tract and nausea symptoms are present" when aerosol was inhaled, and that "an airway is stimulated" in the acute inhalation exposure test employing rats", therefore, it classified into Category 3 (Respiratory tract irritation). In addition, the acute oral toxicity tests employing rats (OECD TG 401, GLP) has a description that "control of spontaneous movement, and dirt on hairs by diarrhea, feces and urine were seen with general findings, but necropsy findings were normal in all animals" by 10,000 mg/kg. Moreover, there is a description that "short term exposure effect: eyes, skin, and respiratory tract are stimulated".



STOT-repeated exposure: In a 20-day dermal administration test with rabbits (International Research and Development Corp. method, GLP) it was reported that "at 2,000 mg/kg there was no systemic toxicity", and in a 90-day oral administration study with rats (OECD TG 408, GLP) it was reported that "there were weight increase in the liver, kidney and adrenal gland (females only) and weight loss in female animals but no toxic effects related to administration of this substance in histopathological studies ". Also, in a 90-day aerosol inhalation exposure test with rats (OECD TG 413, GLP) there is a report of "weight loss, increased liver weight and chromodacryorrhea", and in a 182-day aerosol inhalation exposure test with rats (Industrial Biotest Laboratory, Inc. method) there is a report of "an increase in SGOT, SAP and SGPT, a reduction in BUN and an increase in liver weight".

Aspiration hazard: No information

Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)

Acute toxicity (oral): No information
Acute toxicity (dermal): No information
Acute toxicity (inhalation): No information
Skin corrosion/irritation: Causes skin irritation
Serious eye damage/irritation: No information
Respiratory sensitization: No information
Skin sensitization: No information
Germ cell mutagenicity: No information
Carcinogenicity: No information
Reproductive toxicity: No information
STOT-single exposure: No information
STOT-repeated exposure: No information
Aspiration hazard: May be fatal if swallowed and enters airways

Terphenyl

Acute toxicity (oral): Rat LD₅₀ = 17,500 mg/kg
Acute toxicity (dermal): Rabbit LD₅₀ > 12,500 mg/kg
Skin corrosion/irritation: No information
Serious eye damage/irritation: No information
Respiratory sensitization: No information
Skin sensitization: No information
Germ cell mutagenicity: No information
Carcinogenicity: No information
Reproductive toxicity: No information
STOT-single exposure: No information
STOT-repeated exposure: No information



Aspiration hazard: No information

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

All substances are not listed in the candidate list as having endocrine disrupting properties.

11.2.2. Other information

Gastric or intestinal disorders when ingested.

SECTION 12: Ecological information

12.1. Toxicity:

Information on product:

Acute (short-term) toxicity: No information
Chronic (long-term) toxicity: Very toxic to aquatic life with long lasting effects.

Information on ingredients:

Paraffins (petroleum), normal C₅₋₂₀

Acute (short-term) toxicity: No information
Chronic (long-term) toxicity: No information

Hydrogenated terphenyls

Acute (short-term) toxicity: No information
Chronic (long-term) toxicity: May cause long lasting harmful effects to aquatic life.

Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)

Acute (short-term) toxicity: No information
Chronic (long-term) toxicity: No information

Terphenyl

Acute (short-term) toxicity: No information
Chronic (long-term) toxicity: Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability:

Information on product: No information

Information on ingredients:

Paraffins (petroleum), normal C₅₋₂₀

No information

Hydrogenated terphenyls

No information

Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)

No information



Terphenyl

No information

12.3. Bioaccumulative potential:

Information on product: No information

Information on ingredients:

Paraffins (petroleum), normal C₅₋₂₀

No information

Hydrogenated terphenyls

No information

Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)

No information

Terphenyl

No information

12.4. Mobility in soil:

Information on product: No information

Information on ingredients:

Paraffins (petroleum), normal C₅₋₂₀

No information

Hydrogenated terphenyls

No information

Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)

No information

Terphenyl

No information

12.5. Results of PBT and vPvB assessment:

Hydrogenated terphenyls meets the vPvB criteria.

12.6. Endocrine disrupting properties:

All substances are not listed in the candidate list as having endocrine disrupting properties.

12.7. Other adverse effects:

No information



SECTION 13: Disposal considerations

13.1. Waste treatment methods

Must not be disposed together with household garbage. Do not allow product to reach sewage system.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and non-hazardous wastes.

SECTION 14: Transport information

14.1. UN number or ID number	3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Terphenyl)
14.3. Transport hazard class(es)	9
14.4. Packing group	III
14.5. Environmental hazards	Applicable

14.6. Special precautions for user

Not regulated when carried in single or combination packaging containing a net quantity of 5 L or less for liquids or 5 kg or less for solids.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
Hydrogenated terphenyls (Concentration: 25 - 50%) of this product is listed in REACH - Candidate List of Substances of Very High Concern for Authorisation.

15.2. Chemical safety assessment

Not conducted

SECTION 16: Other information

Update history:

Date of issue: 1, APRIL, 2016
Date of revision: 17, MAY, 2023

Key literature references and sources for data:

NITE GHS classification results (<http://www.safe.nite.go.jp/ghs/list.html>). (2022)
ACGIH, American Conference of Governmental Industrial Hygienists (2022) TLVs and BEIs.



Relevant hazard statements of which do not appear elsewhere in this SDS

- H304: May be fatal if swallowed and enters airways.
- H413: May cause long lasting harmful effects to aquatic life.

Abbreviations

- PBT: Persistent, Bioaccumulative and Toxic substance
- POPs: Persistent Organic Pollutants
- STOT: Specific Target Organ Toxicity
- SVHC: Substances of Very High Concern
- vPvB: Very Persistent and Very Bioaccumulative

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Skin Irrit.2	H315	On basis of classification of the product
STOT SE.3	H335	Calculation method
STOT RE.2	H373	Calculation method
Aquatic Chronic.1	H410	On basis of classification of the product

[Disclaimer]

This SDS has been prepared based on the best available information however, it may not be sufficient in some cases. It is user's responsibility to modify or update any contents in this SDS regarding information on hazardous properties and/or instruction for safe handling of the product when they become available. Precautionary measures in this SDS are only applicable for normal handling conditions and it is necessary to take appropriate additional measures to ensure safe handling which depend on your specific use conditions or situations.