Creation Date : 1/4/1999 (1st version)
18/11/2013 (2nd version)

SAFETY DATA SHEET

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1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

Immersion oil Type NF

COMPANY IDENTIFICATION

Nikon Corporation.
Quality Assurance Department,
Instruments Company
471, Nagaodai-machi, Sakae-ku, Yokohama 244-8533 (JAPAN)
TEL : +81-45-853-8608
FAX : +81-45-853-8485

FOR EMERGENCIES

(JAPAN)+81-45-853-8608

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2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Danger

CLASSIFICATION OF THE GHS

PHYSICAL HAZARDS

Combustible liquid	Not classified

HEALTH HAZARDS

ENVIRONMENTAL HAZARDS

Acute toxicity (Oral dermal)	Not classified
Acute toxicity (Dermal)	Not classified
Acute toxicity, inhalation (Gas)	Not classified
Acute toxicity, inhalation (Dust and mist)	Category 4
Skin corrosion/irritation	Category 3
Serious eye damage/eye irritation	Category 2B
Respiratory sensitization	Not classified
Skin sensitization	Not classified
Germ cell mutagenicity	Category 2
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity - Single exposure	Category 2
Specific target organ toxicity - Repeated exposure	Category 2

ENVIRONMENTAL HAZARDS

Hazardous to the aquatic environment - Acute toxicity	Category 2

Hazardous to the aquatic environment - Chronic toxicity Category 2

GHS LABEL ELEMENTS

Pictograms or hazard symbols

HAZARD STATEMENT

May be harmful if swallowed

Causes mild skin irritation

Causes eye irritation

Suspected of causing genetic defects

May cause damage to organs(liquid paraffine)

Causes damage to organs through prolonged or repeated exposure(liquid paraffine)

Toxic to aquatic life （diphenylether）

Toxic to aquatic life with long lasting effects（diphenylether）

PRECAUTIONARY STATEMENT(S)

PREVENTION:

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed.
P235+P410	Keep cool. Protect from sunlight
P261	Avoid berthing dust/fume/mist/vapors/spray
P271	Use only outdoors or in a well-ventilated area
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P264	Wash hands after handing

STORAGE

P240	Ground/Bond container and receiving equipment.
P235+P410	Keep cool. Protect from sunlight.
P404	Store in a closed container.
P405	Store locked up.

DISPOSAL

P501	Dispose of contents/ in according with local / regional / national / international regulation
P273	Avoid release to the environment.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE

Mixture

GENERAL PRODUCT DESCRIPTION

Immersion oil

Chemical identity	composition(%)	FORMULA	TSCA inventory	RTECS #	CAS#	UN#	ICSC#
Dipheny lether	55~65%	C12H10O	Listed	KN8970000	101-84-8	3077	0791
Polybutene	25~35%	(C4H8)x	Listed	Not listed	9003-27-4	Not listed	Not listed
Paraffin oils	5~15%	CmHn	Listed	PY8047000	8012-95-1 (8042-47-5)	Not listed	1597

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4. GENERAL ADVICE

INHALATION

P261 Avoid berthing dust/fume/mist/vapors/spray.

P340 Remove victim to fresh air and keep at rest in a position comfortable for breath.

P312 Call a POISON CENTER or doctor/physician if you feel unwell..

SKIN CONTACT

P332/P313 If skin irritation occurs: Get medical advice/attention.

EYE CONTACT

P305+P350+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. Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

INGESTION

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

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5. FIRE - FIGHTING MEASURES

SPECIFIC METHODS

Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used.

For initial fire, use dry powder, carbon dioxide, etc.

For large fire, it is effective to use fire foam, etc. to shut off air supply.

Discharging cylinder shape water from fire hose may lead to spread fire to the surroundings.

Cool surrounding facilities, etc. with water spray.

Remove movable containers if safe to do so.

Take action from upwind.

Wear air respirators, chemical protective clothing during fire fighting.

SUITABLE EXTINGUISHING MEDIA

Dry chemical, foam, water spray, carbon dioxide

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6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Keep people away from and upwind of spill/leak.

Entry to non-involved personnel should be controlled around the leakage area by roping

off, etc.

Use personal protective equipment.

Avoid contact with skin and eyes.

No flares, smoking or flame in area.

ENVIRONMENTAL PRECAUTIONS

Do not release to the environment.

Be careful not to let it flow into rivers, etc., since adverse effects on the environment are concerned

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

For small spills, absorb with dry earth, sawdust, sand, etc. and collect into a closed container then dispose of them.

For large spills, dike with earth and sand, etc. to prevent further spills and cover liquid surface with foam and collect into an empty container as much as possible

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7. HANDLING AND STORAGE

HANDLING

TECHNICAL MEASURES

Wear suitable protective equipment.

Keep container tightly closed.

VENTILATION

Use a local exhaust if dust or aerosol will be generated.

OTHER

Keep away from sources of ignition such as open flame, static discharge, electric sparks, etc.

Wash hands and face thoroughly after handling.

Keep away from oxidizing agents.

STORAGE

TECHNICAL MEASURES

Ground all storage containers and use non-sparking tools, equipment.

HAZARDOUS DECOMPOSITION PRODUCTS

Keep away from contact with oxidizing materials

Store in a cool, dry, well-ventilated area away from incompatible substances

Keep container tightly closed

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

Not set up

EXPOSURE LIMITS

ACGIH（2010）

TLV-TWA 1ppm (diphenylether: vapor)

TLV-STEL 2ppm (diphenylether: vapor)

OSHA PEL (TWA): 1 ppm (diphenylether: vapor)

NIOSH (TWA): 1 ppm (diphenylether)

VENTILATION

Handle the product only under conditions where sufficient ventilation is provided and/or in a closed system.

Install eye washer and safety shower near handling and storage area and display where they are.

INDIVIDUAL PROTECTION MEASURES,

RESPIRATORY PROTECTION

Use a NIOSH/MSHA or European Standard EN149 approved respirator if the vapor concentrations exceed regulatory guidelines.

HAND PROTECTION

Wear appropriate protective gloves to prevent skin exposure.

EYE PROTECTION

Wear appropriate protective eyeglasses or chemical safety goggles.

SKIN PROTECTION

Wear appropriate protective clothing to minimize contact with skin.

Protective clothing

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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Viscous colorless liquid

ODOR

Aromatic odor

pH

No data available

CHEMICAL PROPERTIES

Chemical properties	Diphenylether	Polybutene	Liquid paraffine
melting point	28 ℃	<-0℃	>-10 ℃
boiling point	259℃	—	>300 ℃
Solubility(water)	0.0018% 25℃	insoluble	insoluble
vapor pressure	0.0202mmHg 25 ℃	—	<0.00001 Pa (20 ℃)
density	1.075 20℃	0.898(15℃)	0.8-0.9
Vapor Density:	5.9	>1	—
Frash point	115 ℃ closed cup	228℃ open cup	193 ℃ closed cup
Auto ignition Temperature:	618 ℃	—	500-700 ° F
Explosive limits	0.8-1.5 vol%	—	10-20 vol%

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10. STABILITY AND REACTIVITY

STABILITY

Stable under normal temperatures and pressures

CONDITIONS TO AVOID

Sunlight, heat, open flames, high temperature, sparks, static electrical charge, other ignition sources

INCOMPATIBLE MATERIALS

Strong oxidizing agents Oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide, Carbon dioxide

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11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY(oral/dermal/inhalation)

Orl-rat LD50: 2450 mg/kg (diphenylether)

Skn-rbt LD50: >7940 mg/kg (diphenylether)

Orl-rat TDLo: 92mg/kg/92D-C1 (liquid paraffine)

LD50 (or l,rat): >5gm/kg(liquid paraffine)

SKIN CORROSION/IRRITATION :

Skn-rbt 500 mg/24H MLD (diphenylether)

EYE DAMAGE/EYE IRRITATION

Eye-rbt 10 ppm/140H (diphenylether)

CARCINOGENICITY: Not available

NTP: No data available

IARC: Not Classifiable as to Carcinogenicity to Humans (Group 3) (liquid paraffine)

OSHA: No data available

ACGIH: No data available

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12. ECOLOGICAL INFORMATION

ECOTOXICITY:

LIQUID PARAFFIN

Fish: 48h LC50:4.6 ppm (Oryzias latipes)

96h LC50:1.8 mg/L (Oryzias latipes)

Crustacean: 48h EC50:2.0 mg/L (Daphnia magna)

Algae: 72h EC50:0.41 mg/L (Selenastrum capricornutum)

POLYBUTENE

96h LC50:>10,000 mg/L (Rainbow Trout)

96h LC50:>1,000 mg/L (Fathead Minnow)

DIPHENYLETHER

Crustacea (Daphnia magna) 48-hr EC50 = 0.39 mg/L

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13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

Dispose of the remaining product and container in accordance with relevant laws and local regulation.

Wastes should be dealt by a licensed industrial waste trader and fully notify them of the information on hazardous properties and precautions regarding safe handling.

Avoid discharging waste water or cleaning water containing this product directly into rivers, etc.

CONTAMINATED PACKAGING

Used container should be cleaned before disposal or recycled in a suitable manner which shall follow the relevant laws and local regulations.

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14. TRANSPORT INFORMATION

UN HAZARD CLASS

UN-No: 3077(diphenylether)

Transport Hazards Class: 9: Miscellaneous dangerous goods. (diphenylether)

Proper shipping name: Environmentally hazardous substance, liquid,N.O.S.

Packing group: III (diphenylether)

Marine pollutant　Y (polybutene, diphenylether)

SPECIAL PRECAUTIONS FOR USER

Confirm no damages, corrosion and leakages of containers before transportation. Secure prevention of cargo collapse.

During transportation, avoid exposure to direct sunlight.

If a disaster occurs by accident, etc. during transportation, notify fire station and other relevant agencies of it at first.

INTERNATIONAL TRANSPORT CLASSIFICATION

IATA: Not dangerous goods

IMDG: Not dangerous goods

DOT(US): Not dangerous goods

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15. REGULATORY INFORMATION

DIPHENYLETHER

UN Hazard Class

UN No.3077／CLASS　9

UN Hazard Class: 9

UN Packing Group: III

EINECS No.202-981-2

TSCA listed

OECD listed　(HPV Chemicals)

ICCA listed　(HPV Chemicals)

ICSC No.791

GHS No.792

Transport Emergency Card TEC(R)-90G02

NFPA Code：H1；F1；R0

RTECS Number: KN8970000　NOISH

BRN Number　1364620

MLD Number　MFCD00003034

POLYBUTENE

OECD listed (polybutene, liquid paraffine, diphenyelther)

TSCA listed

EINECS No.232-455-8

ICSC No.1597

LIQUID PARAHHINE

EINECSNo.232-384-2

TSCA listed

GHS No.719

EHC No.187
OECD listed
MLD Number MFCD00131611

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16. OTHER INFORMATION

The information above is believed to be accurate and represents the best information currently available to us.

However, we make no warranty of merchantability or any warranty, express or implied, with respect to such information, and we assume no liability resulting from its use.

Users should make their own investigations to determine the suitability of the information for their particular purposes.