

OTTO CHEMIE PVT LTD

An ISO 9001 : 2015 & GMP Certified Company
101, Aarkay Ruby Industrial Estate (1B), Opp Shree Narayan Industrial Estate,
Chinchpada, Vasai East, Waliv, Maharashtra 401208. Tel : + 91 98200 41841
Email : info@ottokemi.com Web : www.ottokemi.com

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1. Product identifiers

Product name: Diethyl ether, for pesticide residue trace analysis, 99.9%
Product Code: D 1730
CAS No : 60-29-7

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification
OTTO CHEMIE PVT LTD
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate,
Chinchpada, Vasai East, Waliv, Maharashtra 401208.
Email info@ottokemi.com

1.4. Emergency telephone number

Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 1), H224

Acute toxicity, Oral (Category 4), H302

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H336

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word

Hazard statement(s)

H224

H302

H336

Precautionary statement(s)

P210

P233

P240

P241

P301 + P312

P403 + P233

Supplemental Hazard information (EU)

EUH019

EUH066

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word

Hazard statement(s)

H224

Precautionary statement(s)

P210

P233

P240

P241

P403 + P233

Supplemental Hazard information (EU)

Danger

Extremely flammable liquid and vapor.

Harmful if swallowed.

May cause drowsiness or dizziness.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

Store in a well-ventilated place. Keep container tightly closed.

May form explosive peroxides.

Repeated exposure may cause skin dryness or cracking.

Danger

Extremely flammable liquid and vapor.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

Store in a well-ventilated place. Keep container tightly closed.

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EUH019

May form explosive peroxides.

EUH066

Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Ether
Ethyl ether
Formula : C₄H₁₀O
Molecular weight : 74,12 g/mol
CAS-No. : 60-29-7
EC-No. : 200-467-2

Component	Classification	Concentration
Diethyl ether		
CAS-No. 60-29-7 EC-No. 200-467-2	Flam. Liq. 1; Acute Tox. 4; STOT SE 3; H224, H302, H336 Concentration limits: >= 20 %: STOT SE 3, H336;	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂) Foam Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water

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from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions

(see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®).

Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Test for peroxide formation periodically and before distillation.

Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	inhalation	Systemic effects	616 mg/m3
Worker DNEL, longterm	dermal	Systemic effects	
Worker DNEL, longterm	inhalation	Systemic effects	308 mg/m3
Consumer DNEL, longterm	dermal	Systemic effects	
Consumer DNEL, longterm	inhalation	Systemic effects	54,5 mg/m3
Consumer DNEL, longterm	oral	Systemic effects	

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	2 mg/l
Sea water	0,2 mg/l
Fresh water sediment	9,14 mg/kg
Sea sediment	0,914 mg/kg
Soil	0,66 mg/kg

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8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Viton®

Minimum layer thickness: 0,7 mm

Break through time: 30 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type AX

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state

liquid

b) Color

colorless

c) Odor

sweet, ether-like

d) Melting

Melting point/range: -116 °C - lit.

point/freezing point

e) Initial boiling point

34,6 °C - lit.

and boiling range

f) Flammability (solid,

No data available

gas)

g) Upper/lower

Upper explosion limit: 36 %(V)

flammability or

Lower explosion limit: 1,7 %(V)

explosive limits

h) Flash point

-40 °C - closed cup - DIN 51755 Part 1

i) Autoignition

175 °C

temperature

at 1.013,25 hPa

j) Decomposition

No data available

temperature

k) pH

No data available

l) Viscosity

Viscosity, kinematic: No data available

Viscosity, dynamic: 0,195 mPa.s at 40 °C

m) Water solubility

65 g/l at 20 °C - completely soluble

n) Partition coefficient:

log Pow: 1,1 - Bioaccumulation is not expected.

n-octanol/water

o) Vapor pressure

189 hPa at 0 °C

389 hPa at 10 °C

563 hPa at 20 °C

863 hPa at 30 °C

1.228 hPa at 40 °C

2.311 hPa at 60 °C

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p) Density	0,706 g/mL at 25 °C - lit.
Relative density	No data available
q) Relative vapor density	No data available
r) Particle characteristics	No data available
s) Explosive properties	No data available
t) Oxidizing properties	none
9.2 Other safety information	
Relative vapor density	2,56 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

Formation of peroxides possible.

Vapors may form explosive mixture with air.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

Contains the following stabilizer(s):

butyl hydroxytoluene (BHT) (1 ppm)

10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with:

chromyl chloride

Peroxides

Risk of explosion with:

azides

halogens

halogen-halogen compounds

nonmetallic oxyhalides

Strong oxidizing agents

chromium(VI) oxide

halogen oxides

peroxi compounds

perchloric acid

perchlorates

Nitric acid

nitrating acid

Oxygen

Ozone

turpentine oils and/or turpentine substitutes

nitrates

metallic chlorides

salts of oxyhalogenic acids

nitrogen oxides

nonmetallic oxides

chromosulfuric acid

chlorates

hydrogen peroxide

permanganic acid

sulfuric acid

with

Nitric acid

sulfur

Risk of explosion during distillation.

Exothermic reaction with:

acid halides

10.4 Conditions to avoid

Light. Heat. Air

Warming.

Moisture.

10.5 Incompatible materials

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rubber, various plastics
10.6 Hazardous decomposition products
Peroxides
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg

Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity

to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish LC50 - *Leuciscus idus* (Golden orfe) - 2.840 mg/l - 48 h (Diethyl ether)

Remarks: (ECOTOX Database)

Toxicity to daphnia

and other aquatic

invertebrates

EC50 - *Daphnia magna* (Water flea) - 1.380 mg/l - 48 h (Diethyl ether)

Remarks: (IUCLID)

Toxicity to algae static test ErC50 - *Desmodesmus subspicatus* (green algae) - > 100 mg/l - 72 h (Diethyl ether)

(OECD Test Guideline 201)

Toxicity to bacteria static test EC50 - activated sludge - 21.000 mg/l - 3 h (Diethyl ether)

(OECD Test Guideline 209)

static test NOEC - activated sludge - 42 mg/l - 3 h (Diethyl ether)

(OECD Test Guideline 209)

Toxicity to daphnia

and other aquatic

invertebrates(Chronic

toxicity)

semi-static test NOEC - *Daphnia magna* (Water flea) - > 100 mg/l - 21 d (Diethyl ether)

(OECD Test Guideline 211)

12.2 Persistence and degradability

Not readily biodegradable.

12.3 Bioaccumulative potential

No bioaccumulation is to be expected ($\log P_{ow} \leq 4$).

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

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No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1155

IMDG: 1155

IATA: 1155

14.2 UN proper shipping name

ADR/RID : DIETHYL ETHER

IMDG : DIETHYL ETHER

IATA : Diethyl ether

14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

14.4 Packaging group

ADR/RID: I

IMDG: I

IATA: I

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

Tunnel restriction code : (D/E)

Further information : No data available

SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

: FLAMMABLE LIQUIDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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