OTTO CHEMIE PVT LTD

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----------ISO 9001: 2015----------

MATERIAL SAFETY DATA SHEET

1.Identification
1.1GHS Product identifier
Diethyl phthalate, 98%
Code D 1785

2.Hazard identification
2.1Classification of the substance or mixture
Not classified.
2.2GHS label elements, including precautionary statements

Pictogram(s)	No symbol.
Signal word	No signal word.
Hazard statement(s)	none
Precautionary statement(s)	
Prevention	none
Response	none
Storage	none
Disposal	none

2.3Other hazards which do not result in classification
none

3.Composition/information on ingredients
3.1Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
diethyl phthalate	diethyl phthalate	84-66-2	none	100%

4.First-aid measures
4.1Description of necessary first-aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
Fresh air, rest.
In case of skin contact
Remove contaminated clothes. Rinse skin with plenty of water or shower.
In case of eye contact
First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
If swallowed
Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention .
4.2Most important symptoms/effects, acute and delayed
Symptoms unlikely from any form of exposure. (USCG, 1999)
4.3Indication of immediate medical attention and special treatment needed, if necessary
Inhalation: remove to fresh air. Eyes: flush with water. Skin: flush with water, wash well with soap and water.

5.Fire-fighting measures
5.1Extinguishing media
Suitable extinguishing media
To fight fire, use water spray, mist, foam.
5.2Specific hazards arising from the chemical
Special Hazards of Combustion Products: Irritating vapors of unburned chemical may form in fire. (USCG, 1999)
5.3Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

6.Accidental release measures
6.1Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
6.2Environmental precautions
Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.
6.3Methods and materials for containment and cleaning up

Environmental considerations-land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash, cement powder, or commercial sorbents. /SRP: If time permits, pits, ponds, lagoons, soak holes, or holding areas should be sealed with an impermeable flexible membrane liner./

7.Handling and storage
7.1Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.
7.2Conditions for safe storage, including any incompatibilities
Storage temp: ambient; venting: open.

8.Exposure controls/personal protection
8.1Control parameters
Occupational Exposure limit values
Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 5 mg/cu m.
Biological limit values
no data available
8.2Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
8.3Individual protection measures, such as personal protective equipment (PPE)
Eye/face protection
Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection
Wear dust mask when handling large quantities.
Thermal hazards
no data available

9.Physical and chemical properties

Physical state	Water-white to colorless, odorless, oily liquid.
Colour	Colorless oily liquid
Odour	Practically odorless
Melting point/ freezing point	-41\u00b0C(lit.)
Boiling point or initial boiling point and boiling range	296\u00b0C(lit.)
Flammability	Class IIIB Combustible Liquid: Fl.P. at or above 93.33\u00b0C.; however, ignition is difficult.Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit / flammability limit	Lower flammable limit: 0.7% by volume at 368 deg F (186\u00b0C)
Flash point	162\u00b0C(lit.)
Auto-ignition temperature	457.22\u00b0C (USCG, 1999)
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	31.3 centistokes at 0\u00b0C
Solubility	In water:1 g/L (20 \u00baC)
Partition coefficient n-octanol/water (log value)	log Kow = 2.47
Vapour pressure	1 mm Hg (100 \u00b0C)
Density and/or relative density	1.118
Relative vapour density	7.66 (vs air)
Particle characteristics	no data available

10.Stability and reactivity
10.1Reactivity
no data available
10.2Chemical stability
STABLE TO LIGHT
10.3Possibility of hazardous reactions
CombustibleDIETHYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely 1980. p. 250].
10.4Conditions to avoid
no data available

10.5Incompatible materials
May attack some forms of plastics.
10.6Hazardous decomposition products
When heated to decomp it emits acrid smoke and irritating fumes.

11.Toxicological information
Acute toxicity
Oral: LD50 Rat oral 9200-9500 mg/kg body weight (95% confidence interval)
Inhalation: LC50 Rat inhalation >4.64 mg/L for 6 hr
Dermal: no data available
Skin corrosion/irritation
no data available
Serious eye damage/irritation
no data available
Respiratory or skin sensitization
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
Cancer Classification: Group D Not Classifiable as to Human Carcinogenicity
Reproductive toxicity
no data available
STOT-single exposure
no data available
STOT-repeated exposure
no data available
Aspiration hazard
no data available

12.Ecological information
12.1Toxicity
Toxicity to fish: LC50; Species: Lepomis macrochirus (Bluegill, young of year, weight 0.32-1.2 g); Conditions: freshwater, static, 21-23\u00b0C, pH 6.5-7.9, hardness 32-48 mg/L CaCO3, alkalinity 28-34 mg/L CaCO3, conductivity 93-190 umhos/cm, dissolved oxygen 0.3-9.7 mg/L; Concentration: 120000 ug/L for 24 hr /> or = 80% purity
Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea, age < or =24 hr); Conditions: freshwater, static, 25\u00b0C, pH > or =7.0, dissolved oxygen > or = 58%; Concentration: 86000 ug/L for 24 hr; Effect: intoxication, immobilization
Toxicity to algae: EC50; Species: Selenastrum capricornutum (Algae); Conditions: test temperature = 24+/-1 Deg C, pH was 7.6 at initiation and ranged from 7.9 to 8.9 on day 8; Concentration: 16 mg/L for 8 days (95% CI = 21.6 to 38.3); Effect: chlorophyll a percent change relative to control.
Toxicity to microorganisms: no data available
12.2Persistence and degradability
AEROBIC: The aerobic half-life of diethyl phthalate in natural fresh water was estimated as 3 days(1). Diethyl phthalate was found to degrade to ethyl methyl phthalate, dimethyl phthalate, methyl phthalate and ethyl phthalate when co-contaminated with methanol(2). A shake flask experiment using microorganisms isolated from a municipal sludge resulted in complete aerobic degradation of 400 mg/L of diethyl phthalate in approximately 35 hours, 200 mg/L in 25 hours, 140 mg/L in 22 hours and 75 mg/L in 18 hours(3). Diethyl phthalate was completely degraded by Rhine River water at 20\u00b0C in a 3 day die-away test(4). Diethyl phthalate was 87-92% degraded in 10-50 days at 25\u00b0C from a concn of 100 mg/L using 30 mg/L activated sludge(5). Electrolytic respirometer studies have shown that diethyl phthalate is readily biodegradable under aerobic conditions(6-8). Diethyl phthalate had aerobic aquatic half-lives of 0.39 days in a river die-away test, 4.33 days in MITI test, and 0.71 days using microcosm periphlton, and an aerobic soil half-life of 1.83 days agitated in aqueous suspension(9).
12.3Bioaccumulative potential
Bluegill sunfish exposed to 9.42 ug/L of diethyl phthalate for 21 days had a measured BCF of 117(1). According to a classification scheme(2), this BCF value suggests that bioconcentration in aquatic organisms is high(SRC). An experimental log BCF of 2.07 was measured in clams(3).
12.4Mobility in soil
A Koc value of diethyl phthalate of 1,726 was measured in podzol soil at pH 2.8 and 4.85% carbon, a value of 704 in alfisol soil at pH 6.7 and 1.25% carbon, a value of 320 in sediment at pH 7.1 and 1.58% carbon(1). An experimental log Koc of 1.99 was determined from unsaturated soil columns at pH 4.8(2). A Koc value of 69 was determined from measurements on soil samples from Broome County, NY(3). According to a classification scheme(4), these Koc values suggest that diethyl phthalate is expected to have low to high mobility in soil.
12.5Other adverse effects
no data available

13.Disposal considerations
13.1Disposal methods
Product
The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14.Transport information
14.1UN Number
ADR/RID: UN3465 IMDG: UN3465 IATA: UN3465
14.2UN Proper Shipping Name
ADR/RID: ORGANOARSENIC COMPOUND, SOLID, N.O.S.
IMDG: ORGANOARSENIC COMPOUND, SOLID, N.O.S.
IATA: ORGANOARSENIC COMPOUND, SOLID, N.O.S.
14.3Transport hazard class(es)
ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1
14.4Packing group, if applicable
ADR/RID: III IMDG: III IATA: III
14.5Environmental hazards
ADR/RID: no IMDG: no IATA: no
14.6Special precautions for user
no data available
14.7Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
no data available

15.Regulatory information
15.1Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
diethyl phthalate	diethyl phthalate	84-66-2	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

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.