OTTO CHEMIE PVT LTD

201, 51-53 Maroo Bhavan, Kalbadevi, Mumbai – 400002, India. Tel : + 91 22 2207 0099 / 6638 2599
Email : info@ottokemi.com, Web : www.ottokemi.com

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

MATERIAL SAFETY DATA SHEET

Identification
1.1GHS Product identifier
Bis(2-ethylhexyl) adipate, 98%
Code B 1810

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
bis(2-ethylhexyl) adipate	bis(2-ethylhexyl) adipate	103-23-1	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 and then wash skin with water and soap.
In case of eye contact
Rinse with plenty of water (remove contact lenses if easily possible).
If swallowed
Rinse mouth. Give one or two glasses of water to drink.
4.2Most important symptoms/effects, acute and delayed
Liquid may cause mild eye irritation. Repeated or prolonged skin contact may cause irritation. (USCG, 1999)
4.3Indication of immediate medical attention and special treatment needed, if necessary
Absorption, Distribution and Excretion
The absorption, distribution, and elimination of DEHA were studied in mice and rats. Male Sprague Dawley rats, male NMRI mice, and pregnant female NMRI mice on day 17 of gestation were administered (14)C labeled DEHA dissolved in dimethyl sulfoxide or corn oil iv or intragastrically. The DEHA was labeled on the carbonyl or alcohol moiety. Animals were killed 5 min to 4 days after dosing, and the tissue distribution of (14)C activity was determined by whole body autoradiography. The tissue distribution of (14)C activity from carbonyl labeled DEHA was similar in all animals. Highest levels of radioactivity were observed in the body fat, liver, and kidney after intragastrically or iv administration. (14)C activity from alcohol labeled DEHA was found in the bronchi of male mice. In pregnant mice, (14)C activity was observed in the fetal liver, intestine, and bone marrow during the first 24 hr after carbonyl labeled DEHA was given. Very little radiolabel was found in fetuses of mice given alcohol labeled DEHA. No DEHA derived radioactivity was found in mice 4 days after dosing. Blood DEHA concn in rats increased faster and were two or three times higher when the dose was given in DMSO rather than corn oil. Significant amounts of DEHA were excreted in the bile of rats treated with DEHA in DMSO. Very little biliary elimination of radiolabel occurred in animals given carbonyl labeled DEHA. DEHA was excreted in the urine, the amounts being smaller in animals used in the bile collection experiments. The vehicle had very little effect on the amount excreted. DEHA is poorly absorbed from an oil solution.

5.Fire-fighting measures
5.1Extinguishing media
Suitable extinguishing media
FOAM, CARBON DIOXIDE, DRY CHEM ... .
5.2Specific hazards arising from the chemical
Behavior in Fire: Use water spray to cool exposed containers. (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: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Carefully collect remainder. Then store and dispose of according to local regulations.
6.3Methods and materials for containment and cleaning up
Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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
Separated from strong oxidants and strong acids. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.IN GENERAL, MATERIALS ... TOXIC AS STORED OR WHICH CAN DECOMP INTO TOXIC COMPONENTS ... SHOULD BE STORED IN COOL ... VENTILATED PLACE, OUT OF ... SUN, AWAY FROM ... FIRE HAZARD ... BE PERIODICALLY INSPECTED & MONITORED. INCOMPATIBLE MATERIALS SHOULD BE ISOLATED.

8.Exposure controls/personal protection
8.1Control parameters
Occupational Exposure limit values
no data available
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	colorless or light yellow oily liquid with special odour
Colour	COLORLESS OR VERY PALE AMBER LIQ
Odour	SLIGHT AROMATIC SMELL
Melting point/ freezing point	110\u00b0C(dec.)(lit.)
Boiling point or initial boiling point and boiling range	175\u00b0C/2mmHg(lit.)
Flammability	Combustible.
Lower and upper explosion limit / flammability limit	LOWER FLAMMABLE LIMIT: 0.4% BY VOLUME @ 242 DEG C
Flash point	196\u00b0C
Auto-ignition temperature	376.67\u00b0C
Decomposition	no data available

temperature	
pH	Acidity: 0.25 (meq/100 gm. max)
Kinematic viscosity	13.7 cP @ 20\u00b0C
Solubility	In water:immiscible
Partition coefficient n-octanol/water (log value)	8.1 (calculated)
Vapour pressure	8.35E-06mmHg at 25\u00b0C
Density and/or relative density	0.925g/mLat 20\u00b0C(lit.)
Relative vapour density	12.8 (Relative to Air)
Particle characteristics	no data available

10.Stability and reactivity
10.1Reactivity
no data available
10.2Chemical stability
Stable under recommended storage conditions.
10.3Possibility of hazardous reactions
SLIGHT, WHEN EXPOSED TO HEAT OR FLAME; CAN REACT WITH OXIDIZING MATERIALS.BIS(2-ETHYLHEXYL) ADIPATE 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]. This chemical is incompatible with oxidizing materials and water. It is also incompatible with nitrates.
10.4Conditions to avoid
no data available
10.5Incompatible materials
no data available
10.6Hazardous decomposition products
When heated to decomposition it emits acrid smoke and irritating fumes.

11.Toxicological information
Acute toxicity
Oral: LD50 Rat oral 5.6 g/kg
Inhalation: no data available
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
No data are available in humans. Limited evidence of carcinogenicity in animals. OVERALL EVALUATION: Group 3: The agent is not classifiable as to its carcinogenicity to humans.
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: no data available
Toxicity to daphnia and other aquatic invertebrates: no data available
Toxicity to algae: no data available
Toxicity to microorganisms: no data available
12.2Persistence and degradability
AEROBIC: In a semi-continuous activated sludge method used to simulate sewage treatment plant biodegradation, bis(2-ethylhexyl) adipate was observed to undergo primary degradation of 65-96% (at concns of 5 and 20 mg added/24 hr)(1); in a CO2 evolution study, bis(2-ethylhexyl) adipate was observed to undergo an ultimate degradation of 94% over a 35-day incubation period which

corresponds to a first-order half-life of 2.7 days(1). Bis(2-ethylhexyl) adipate, present at 100 mg/l, reached 67-74% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/l and the Japanese MITI test(2).

12.3Bioaccumulative potential

A whole-fish BCF of 27 was observed for blue-gill fish exposed to bis(2-ethylhexyl) adipate levels of 250 ug/l for a 28-day period(1). According to a classification scheme(2), this measured BCF value suggests the potential for bioconcentration in aquatic organisms is low.

12.4Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc for bis(2-ethylhexyl) adipate can be estimated to be 49,000(SRC). According to a classification scheme(2), this estimated Koc value suggests that bis(2-ethylhexyl) adipate is expected to be immobile 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: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

14.2UN Proper Shipping Name

ADR/RID: unknown
IMDG: unknown
IATA: unknown

14.3Transport hazard class(es)

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

14.4Packing group, if applicable

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

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
bis(2-ethylhexyl) adipate	bis(2-ethylhexyl) adipate	103-23-1	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.