

Product Name Dioctyl maleate
MSDS number 80485
Revision Number 6

Revision Date Dec.06.2018
Issuing date Feb.12.2019

AGHS/EN

1. Identification of the substance/preparation and the company/undertaking

Product Name
Dioctyl maleate

Manufacturer or supplier's details
Celanese Sales Germany GmbH
Am Unisys-Park 1
65843 Sulzbach (Taunus)
Germany

Celanese Pte Ltd
60 Anson Road
Maple Tree Anson #13-02
Singapore 079914

Product Information
Email: Info.Chemicals.CN@celanese.com

Emergency telephone number
+(65) 62656917 (Operations Room direct dial)
or fax request to +(65) 62664696 (Facsimile to Operations Room)
or email to posh.er@paccoffshore.com.sg

In China Emergency Number: 86-532-83889090 (NRCC)

Identified uses
Monomer, Reprographic agents (Toner)

2. Hazards identification

GHS Classification

Hazards	Category
Specific target organ systemic toxicity (repeated exposure)	Category 2
Chronic aquatic toxicity	Category 1

Symbol(s)



Signal Word

Warning

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Hazard Statements H373 - May cause damage to organs through prolonged or repeated exposure if swallowed
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements P260 - Do not breathe dust/fume/gas/mist/spray/spray.
P273 - Avoid release to the environment
P314 - Get medical attention/advice if you feel unwell
P391 - Collect spillage
P501 - Dispose of contents/container in accordance with local regulations.

3. Composition/Information on ingredients

Components	CAS-No	Percent %
Bis(2-ethylhexyl) fumarate	141-02-6	<= 5
2-Ethylhexan-1-ol	104-76-7	<= 2
Bis(2-ethylhexyl)maleate	142-16-5	>= 98

4. First aid measures

General Information

Remove contaminated, soaked clothing immediately and dispose of safely.

Skin

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eyes

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Inhalation

Keep at rest. Aerate with fresh air. If symptoms persist, call a physician.

Ingestion

Call a physician immediately. Do not induce vomiting without medical advice.

5. Fire-fighting measures

NFPA: Health: 2

Flammability: 1

Instability: 0

Suitable extinguishing media

Foam, Dry chemical, Carbon dioxide (CO2)

Extinguishing media which must not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire.

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Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases

Under conditions giving incomplete combustion, hazardous gases produced may consist of
Carbon monoxide
Carbon dioxide (CO₂)
Combustion gases of organic materials must in principle be graded as inhalation poisons

Special protective equipment for fire-fighters

self-contained breathing apparatus (EN 133).

Environmental precautions

Water used to fight fire runoff can cause environmental damage. Dike and collect water used to fight fire.

Other Information

Cool containers / tanks with water spray.

6. Accidental release measures

Personal precautions

Avoid contact with the skin and the eyes. Keep away from heat and sources of ignition. Provide adequate ventilation.

Environmental precautions

Prevent further leakage or spillage. Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Dispose of in accordance with local regulations.

7. Handling and storage

Advice on safe handling

Provide sufficient air exchange and/or exhaust in work rooms.

Incompatible products

No hazards to be especially mentioned

Protection - fire and explosion:

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge. Ground and bond containers when transferring material. In case of fire, emergency cooling with water spray should be available.

Material storage

Keep in a dry, cool and well-ventilated place.

Incompatible products

No hazards to be especially mentioned

Technical measures/Storage conditions

Keep tightly closed in a dry, cool and well-ventilated place. Handle an open container with care.

8. Exposure controls / personal protection

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ACGIH Exposure Limits

No exposure limits established.

OSHA Exposure Limits

No exposure limits established.

Exposure controls

Engineering measures

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Personal protective equipment

General advice

Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Use only in an area equipped with a safety shower. Hold eye wash fountain available.

Hygiene measures

When using, do not eat, drink or smoke.. Take off all contaminated clothing immediately.. Wash hands before breaks and immediately after handling the product..

Respiratory protection

If aerosols or vapors are present, respiratory protection is required (gas filter A) .

Eye protection

Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.. Equipment should conform to EN 166.

Skin protection

impervious clothing

Hand protection

Chemicals resistant gloves

Suitable material

Butyl-rubber

Reference substance

Di-(2-ethylhexyl)-phthalate

Type

Butoject (Company KCL) or comparable article;
or refer to glove manufacturer's recommendation

Evaluation

according to EN 374: level 6

Material thickness

Approx. 0.3 mm

Break through time

480 min

9. Physical and chemical properties

Appearance

Form

liquid

Color

colourless

Odor

ester-like

Odor Threshold

not determined

Molecular Weight

340.56 g/mol

Flash point

185°C

Method

closed cup

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9. Physical and chemical properties

Autoignition Temperature	260 °C
Method	EU A.15
Decomposition Temperature	Not determined
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Flammability (solids)	not applicable
Melting point/range	-60°C
Boiling point/range	156°C @ 9 hPa
Density	0.94 g/ml @ 20°C
pH	Not determined
Viscosity	8.29 mPa*s @ 20°C
Method	calculated
Vapor pressure	0.00022 Pa @ 20°C 0.0096 Pa @ 50°C
Vapor density	11.7 (Air=1)
Evaporation Rate	Not determined
Water solubility	< 36 µg/l @ 20°C
Solubility in other solvents	Not determined
Partition coefficient (n-octanol/water)	~ 7.24 (measured)
Explosive Properties	not applicable based on consideration of the structure
Oxidizing Properties	not applicable based on consideration of the structure
Surface Tension	not determined
Dissociation constant	not applicable based on consideration of the structure

10. Stability and reactivity

Reactivity

Stable under normal conditions of handling, use and transportation.

Conditions to avoid

Avoid any source of ignition.. Avoid contact with heat, sparks, open flame, and static discharge..

Incompatible Materials

None known

Hazardous Combustion or Decomposition Products:

Thermal decomposition products may include oxides of carbon.

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11. Toxicological information

Potential health effects

Routes of exposure Skin, eyes, inhalation, ingestion.

Immediate effects

Skin May cause skin irritation. Symptoms of overexposure include: Redness or discoloration, swelling, itching, burning or blistering of skin.

Eyes May cause eye irritation. Symptoms of exposure may include: Eye irritation or burning sensation.

Inhalation May cause irritation of respiratory tract.

Ingestion Essentially non-toxic.

Target organ effects Local irritation at the site of exposure

Medical conditions which may be aggravated by exposure: Skin

Bis(2-ethylhexyl)maleate

Acute oral toxicity	LD50: > 2000 mg/kg
Acute dermal toxicity	LD50: 14000 mg/kg
Skin corrosion/irritation	slight irritant effect - does not require labelling
Species	rabbit
Method	OECD 404
Skin Sensitization	nonsensitizer
Species	guinea pig female
Method	OECD 406
Serious eye damage/eye irritation	No eye irritation
Species	rabbit eye
Method	OECD 405
Carcinogenic effects	No evidence of carcinogenicity
in vitro Mutagenicity	Ames Test: negative - with and without metabolic activation - Method: OECD 471
in vivo Mutagenicity	No evidence of in vitro mutagenicity
Reproductive toxicity	No adverse reproductive / developmental effects at the highest dose tested
Routes of exposure	oral gavage
Species	rat
	NOAEL: ~ 1000 mg/kg bw/day
Repeated exposure	Chronic progressive nephropathy and mineralization in the kidneys (Reference substance: Dibutyl maleate)
Routes of exposure	oral gavage

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Species rats
Method OECD 408
LOAEL: 30 mg/kg/d

12. Ecological Information

Bis(2-ethylhexyl)maleate

Acute fish toxicity LC50: > 100 mg/l (96h)
Species: Danio rerio (Zebra fish)
Method: OECD 203

Acute daphnia toxicity EC50: 59.5 mg/l (48h)
Species: Daphnia magna
Method: OECD 202

Toxicity to aquatic plants EC50: > 0.619 mg/l (72h)
Species: Pseudokirchneriella subcapitata
Method: OECD 201

Toxicity to bacteria EC50: > 1000 mg/l (3h)
Species: in activated sludge
Method: OECD 209

Biodegradation degradable
Species: activated sludge
Method: OECD 301 F

Mobility in soil KOC: 153400 l/kg

Other potential hazards The substance does not meet the criteria for PBT / vPvB according to REACH, Annex XIII

13. Disposal considerations

Product information

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Uncleaned empty packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse

14. Transport information

US Department of Transportation

UN/NA Number: UN 3082
Proper Shipping Name Environmentally hazardous substances, liquid, n.o.s.
Hazard Inducer (Bis(2-ethylhexyl) maleate)
Hazard class 9
Packing Group III
Emergency Resp. Guide 171
Marine pollutant Yes

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14. Transport information

ADR/RID

UN/ID No. UN 3082
 Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
 Hazard Inducer (Bis(2-ethylhexyl) maleate)
 Hazard Class 9
 Classification Code M6
 Packing group III
 Environmentally hazardous yes
 Tunnel Restriction Code (E)
 Hazard Label(s) 9 + Fish and tree
 Hazard Number 90

ADN

ADN: Container and Tanker
 UN/ID No. UN 3082
 Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
 Hazard Inducer (Bis(2-ethylhexyl) maleate)
 Hazard Class 9
 Classification Code M6
 Packing group III
 Environmentally hazardous yes
 Hazard Labels 9 + Fish and tree

ICAO/IATA

UN-No. UN 3082
 Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
 Hazard Inducer (Bis(2-ethylhexyl) maleate)
 Hazard Class 9
 Packing group III
 Environmentally hazardous yes
 Hazard Labels 9 + Fish and tree

IMDG

UN/ID No. UN 3082
 Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
 Hazard Inducer (Bis(2-ethylhexyl) maleate)
 Hazard Class 9
 Packing group III
 Marine pollutant yes
 Hazard Labels 9 + Fish and tree
 EmS Code F-A, S-F

15. Regulatory information

INTERNATIONAL REGULATIONS

This substance is classified as dangerous according to Chinese legislation

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International Inventories

Listed on the chemical inventories of the following countries or qualifies for an exemption:

Australia (AICS)
Canada (DSL)
China (IECSC)
Europe (EINECS)
Japan (ENCS)
Japan (ISHL)
Korea (KECI)
New Zealand (NZIoC)
Philippines (PICCS)
United States (TSCA)

16. Other information

HMIS: Health: 2

Flammability: 1

Physical Hazard: 0

Prepared By

Product Stewardship Department
Celanese

Other Information:

Observe national and local legal requirements.

Changes against the previous version are marked by ***

Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on Celanese owned data and public sources deemed valid or acceptable. The absence of data elements required by ANSI or 1907/2006/EC indicates that no data meeting these requirements is available.

Further information

This information is based on our present state of knowledge. It shall describe our products regarding safety requirements and shall not be construed as a guarantee or statement of condition and/or quality. For more information, other material safety data sheets or technical data sheets please consult the Celanese homepage (www.celanese.com)