

Safety data sheet

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BASF Safety data sheet
Date / Revised: 22.04.2016
Product: **Synative® ES DPHA**

Version: 2.1

(30602826/SDS_GEN_SG/EN)

Date of print 23.04.2016

1. Substance/preparation and manufacturer/supplier identification

Synative® ES DPHA

Use: Component for lubricants and metal working fluids

Manufacturer/supplier:

BASF South East Asia Pte Ltd.
7 Temasek Boulevard,
#35-01 Suntec Tower One, 038987, SINGAPORE
Telephone: +65 6 337-0330
Telefax number: +65 6 334-0330
E-mail address: xinhui.khaw@basf.com

Emergency information:

International emergency number:
Telephone: +49 180 2273-112

2. Hazard identification

Classification of the substance and mixture:

No need for classification according to GHS criteria for this product.

Label elements and precautionary statement:

The product does not require a hazard warning label in accordance with GHS criteria.

Other hazards which do not result in classification:

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/information on ingredients

Chemical nature

aliphatic carboxylic esters

4. First-Aid Measures

General advice:

Remove contaminated clothing.

If inhaled:

If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Rinse mouth and then drink plenty of water.

Note to physician:

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Further important symptoms and effects are so far not known.

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Suitable extinguishing media:

water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:

water jet

Specific hazards:

harmful vapours

Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental Release Measures

Personal precautions:

Use personal protective clothing. Breathing protection required.

Environmental precautions:

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods for cleaning up or taking up:

For large amounts: Pump off product.

For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Handling

No special measures necessary provided product is used correctly.

Protection against fire and explosion:

Take precautionary measures against static discharges.

Storage

Segregate from foods and animal feeds. Segregate from strong oxidizing agents. Segregate from strong acids.

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

Protect from temperatures above: 80 °C

8. Exposure controls and personal protection

Components with occupational exposure limits

No occupational exposure limits known.

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for higher concentrations or long-term effect: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Chemical resistant protective gloves

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g.

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temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
 Safety glasses with side-shields.

General safety and hygiene measures:
 Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store work clothing separately.

9. Physical and Chemical Properties

Form:	liquid	
Colour:	yellowish	
Odour:	faint specific odour	
Odour threshold:	No applicable information available.	
pH value:	7.9 (5 %(m))	(DIN EN 1262)
Melting temperature:	< -100 °C	(Directive 92/69/EEC, A.1)
Boiling range:	377 - 387 °C	(Directive 92/69/EEC, A.2)
Flash point:	208.5 °C	(Regulation 440/2008/EC, A.9)
Flammability (solid/gas):	not highly flammable	
Lower explosion limit:	For liquids not relevant for classification and labelling.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	334 °C	(Regulation 440/2008/EC, A.15)
Self ignition:	not self-igniting	Test type: Spontaneous self-ignition at room-temperature.
Self heating ability:	not applicable	
Explosion hazard:	not explosive	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	
Vapour pressure:	0.000011 Pa (20 °C)	(Directive 92/69/EEC, A.4)
Density:	0.9117 g/cm ³ (20 °C)	(ISO 2811-3)

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Relative density:	0.91 (20 °C)	
Solubility in water:	approx. 0.00004 mg/l (20 °C)	
Hygroscopy:	Non-hygroscopic	
Solubility (qualitative) solvent(s):	alcohols, hydrocarbons soluble	
Partitioning coefficient n-octanol/water (log Pow):	9.8 (25 °C)	(OECD Guideline 117)
Adsorption/water - soil:	KOC: 2341000; log KOC: 6.37 Adsorption to solid soil phase is expected.	(calculated)
Volatility/water - air:		(calculated)
	The substance will slowly evaporate into the atmosphere from the water surface.	
Surface tension:	Study scientifically not justified.	
Viscosity, dynamic:	220 mPa.s (20 °C)	(OECD 114)
	100 mPa.s (40 °C)	(OECD 114)
Viscosity, kinematic:	24.1 mm ² /s (20 °C)	(OECD 114)
	11.4 mm ² /s (40 °C)	(OECD 114)

Other Information:

If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Conditions to avoid:

Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static discharge.

Substances to avoid:

strong acids, strong oxidizing agents

Corrosion to metals: No corrosive effect on metal.

Hazardous reactions:

No hazardous reactions when stored and handled according to instructions.

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

Experimental/calculated data:

LD50 rat (oral): > 5,000 mg/kg (OECD Guideline 423)

No mortality was observed.

LC50 rat (by inhalation): > 5.7 mg/l 4 h (OECD Guideline 403)

No mortality was observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. An aerosol was tested.

LD50 rat (dermal): > 5,000 mg/kg (OECD Guideline 402)

No mortality was observed.

Irritation**Assessment of irritating effects:**

May cause slight irritation to the skin. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation In vitro assay: non-irritant (OECD Guidelines 431/439)

Skin corrosion/irritation rabbit: Slightly irritating. (OECD Guideline 404)

Serious eye damage/irritation In vitro assay: non-irritant (OECD Guideline 492)

Serious eye damage/irritation rabbit: non-irritant (similar to OECD guideline 405)

Serious eye damage/irritation In vitro assay: no irreversible damage (OECD Guideline 437)

Respiratory/Skin sensitization**Assessment of sensitization:**

Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:

Mouse Local Lymph Node Assay (LLNA) mouse: ambiguous (OECD Guideline 429)

Guinea pig maximization test guinea pig: Non-sensitizing. (similar to OECD guideline 406)

Germ cell mutagenicity**Assessment of mutagenicity:**

No mutagenic effect was found in various tests with bacteria, microorganisms and mammalian cell culture. The substance was not mutagenic in a test with mammals.

Carcinogenicity**Assessment of carcinogenicity:**

The substance/product has not been fully tested. The statement has been derived from the structure of the product. In long-term studies in rodents exposed to high doses, a tumorigenic effect was

found; however, these results are thought to be due to a rodent-specific liver effect that is not relevant to humans.

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Developmental toxicity

Assessment of teratogenicity:

Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure):

Remarks: Based on available Data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Repeated exposure to high doses of the substance causes reversible liver changes in rodents. According to present knowledge, these effects do not occur in man.

Aspiration hazard

No data available.

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:

No toxic effects occur within the range of solubility. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. There is a high probability that the product is not acutely harmful to aquatic organisms. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms.

Toxicity to fish:

LC50 (96 h) > 100 mg/l, *Brachydanio rerio* (OECD Guideline 203, semistatic)

No mortality was observed. No toxic effects occur within the range of solubility. Limit concentration test only (LIMIT test). The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates:

EC50 (48 h) > 100 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, semistatic)

No toxic effects occur within the range of solubility. The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test). The product has low solubility in the test medium. A saturated solution has been tested.

Aquatic plants:

EC50 (72 h) > 100 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201, static)
The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test). No toxic effects occur within the range of solubility.

EC10 (72 h) > 100 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201, static)
The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test). No toxic effects occur within the range of solubility.

Microorganisms/Effect on activated sludge:

EC10 (3 h) > 1,000 mg/l, (OECD Guideline 209, static)
No effects at the highest test concentration.

Chronic toxicity to fish:

No observed effect concentration (28 d) \geq 100 mg/l, other (OECD Guideline 215, semistatic)
The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test). No toxic effects occur within the range of solubility. The product has low solubility in the test medium. A saturated solution has been tested.

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d), \geq 10 mg/l, *Daphnia magna* (OECD Guideline 211, semistatic)
The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test). No toxic effects occur within the range of solubility.

Assessment of terrestrial toxicity:

No effects at the highest test concentration.

Soil living organisms:

LC50 (14 d) > 1,000 mg/kg, *Eisenia foetida* (OECD Guideline 207, artificial soil)
Limit concentration test only (LIMIT test). No effects at the highest test concentration.

Terrestrial plants:

No data available.

Other terrestrial non-mammals:

No data available.

Mobility**Assessment transport between environmental compartments:**

The substance will slowly evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is expected.

Persistence and degradability**Elimination information:**

approx. > 90 % CO₂ formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge, domestic, non-adapted) Readily biodegradable (according to OECD criteria).

Bioaccumulation potential

Assessment bioaccumulation potential:

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Does not accumulate in organisms.

Bioaccumulation potential:

Bioconcentration factor: 27 (28 d), *Lepomis macrochirus* (measured)

Analogous: Assessment derived from products with similar chemical character.

13. Disposal Considerations

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:

Uncontaminated packaging can be re-used.

Packs that cannot be cleaned should be disposed of in the same manner as the contents.

14. Transport Information

Domestic transport:

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Other regulations

16. Other Information

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.