MATERIAL SAFETY DATA SHEET

Vitamin E-Acetate

1. Identification

Vitamin E-Acetate

Details of the supplier of the safety data sheet

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2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

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

Label elements

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

Hazards not otherwise classified

When finely distributed, self-ignition is possible. Mop up spills with non-flammable adsorbents (e.g. vermiculite, spill mats). Soiled textiles / cleaning rags / adsorbents and Silica are capable of self-ignition and should be wetted with water and must be disposed of in a safe manner. High risk of slipping due to leakage/spillage of product. The product does not contain a substance fulfilling the PBT (persistent/bio accumulative/toxic) criteria or the vPvB (very persistent/very bio accumulative) criteria.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Under the referenced regulation, this product does not contain any components classified for health hazards above the relevant cut off value.

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air.

If on skin:

Wash thoroughly with soap and water.

If in eyes:

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

If swallowed:

Rinse mouth and then drink 200-300 ml of water.

Most important symptoms and effects, both acute and delayed

Symptoms: (Further) symptoms and / or effects are not known so far Hazards: No applicable information available.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: water spray, carbon dioxide, dry powder, alcohol-resistant foam Unsuitable extinguishing media for safety reasons:
Water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting: harmful vapours, carbon oxides

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

Advice for fire-fighters

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Cool endangered containers with water-spray.

6. Accidental release measures

Further accidental release measures:

High risk of slipping due to leakage/spillage of product.

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures see, section 8.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For small amounts: Contain with absorbent material (e.g. sand, silica gel, acid binder, general purpose binder, sawdust).

For large amounts: Dike spillage. Pump off product.

Mop up spills with non-flammable adsorbents (e.g. vermiculite, spill mats). Soiled textiles / cleaning rags / adsorbents and Silica are capable of self-ignition and should be wetted with water and must be disposed of in a safe manner. Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling

No special measures necessary provided product is used correctly.

Protection against fire and explosion:

No explosion proofing necessary.

Conditions for safe storage, including any incompatibilities No

applicable information available.

Suitable materials for containers: Stove-lacquer O 360, High density polyethylene (HDPE)

Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Protect against heat.

8. Exposure Controls/Personal Protection

No occupational exposure limits known.

Advice on system design:

Provide local exhaust ventilation to control vapors/mists.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) organic vapor/particulate respirator.

Hand protection:

Wear chemical resistant protective gloves.

Eye protection:

Tightly fitting safety goggles (chemical goggles).

Body protection:

Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. Wash soiled clothing immediately.

9. Physical and Chemical Properties

Form: oily

Odour: almost odorless

Odour threshold: not determined

Colour: colourless to amber

pH value: not applicable Freezing point: < -20 °C Soiling point: > 300 °C

Sublimation point: No applicable information available.

Flash point: 257 °C (DIN EN 22719; ISO 2719, closed cup)

Flammability: hardly combustible

Lower explosion limit: For liquids not relevant for

classification and labelling.

Upper explosion limit: For liquids not relevant for

classification and labelling.

Autoignition: 382 °C (DIN EN 14522)

Vapour pressure: Study scientifically not justified.

Density: 0.98 g/cm3 (20 °C)

Literature data.

Vapour density: No data available.

Partitioning coefficient 12.25 ((calculated)

noctanol/water (log Pow): 25 °C)

Self-ignition Risk of self-ignition when a large temperature: surface area is produced due to fine

dispersion.

Thermal decomposition: 430 °C (DSC (DIN 51007))

Viscosity, kinematic: 5,706 mm2/s (OECD 114)

(20 °C)

701 mm2/s (OECD 114)

(40 °C)

Particle size: The substance / product is marketed

or used in a non-solid or granular

form.

Solubility in water: < 0.8 mg/l (20

°C) sparingly

soluble

Solubility (quantitative): No applicable information available.

Solubility (qualitative): No applicable information available.

Evaporation rate: Value can be approximated from

Henry's Law Constant or vapor

pressure.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

No corrosive effect on metal.

Oxidizing properties:

Based on its structural properties the product is not classified as oxidizing.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

When finely distributed, self-ignition is possible.

Conditions to avoid

Avoid direct sunlight. Avoid heat.

Incompatible materials

Strong alkalies, strong oxidizing agents

Hazardous decomposition products

Decomposition products:

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

Thermal decomposition:

430 °C (DSC (DIN 51007))

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

Oral

Type of value: LD50 Species: rat (male/female)

Value: > 10,000 mg/kg (BASF-Test)

Dermal

Type of value: LD50

Species: rat

Value: > 3,000 mg/kg (similar to OECD guideline 402)

Assessment other acute effects Assessment

of STOT single:

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

Irritation / corrosion

Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes.

Skin

Species: rabbit Result: non-irritant

Method: OECD Guideline 404

<u>Eye</u>

Species: rabbit Result: non-irritant

Method: OECD Guideline 405

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Photo-allergy test

Species: guinea pig Result:

Non-sensitizing.

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: Repeated oral uptake of the substance did not cause substance-related effects.

Genetic toxicity

Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammals.

Carcinogenicity

Assessment of carcinogenicity: In long-term animal studies in which the substance was given in high doses by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Symptoms of Exposure

(Further) symptoms and / or effects are not known so far

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. 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.

Toxicity to fish

LC50 (96 h) > 11 mg/l, Oncorhynchus my kiss (OECD Guideline 203, static)

The statement of the toxic effect relates to the analytically determined concentration. No toxic effects occur within the range of solubility.

Aquatic invertebrates

EC50 (48 h) > 20.6 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

The statement of the toxic effect relates to the analytically determined concentration. No toxic effects occur within the range of solubility.

Aquatic plants

EC50 (72 h) > 27.8 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static) The statement of the toxic effect relates to the analytically determined concentration. No toxic effects occur within the range of solubility.

Chronic toxicity to fish

No observed effect concentration (28 d) > 100 mg/l, Oncorhynchus mykiss (OECD Guideline 215, semi static)

<u>Chronic toxicity to aquatic invertebrates</u> Study scientifically not justified.

Assessment of terrestrial toxicity No data available.

Microorganisms/Effect on activated sludge

<u>Toxicity to microorganisms</u> DIN EN ISO 8192 aquatic activated sludge, domestic/EC20 (30 min): > 927 mg/l The details of the toxic effect relate to the nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Moderately/partially biodegradable. Not readily biodegradable (by OECD criteria). The product is virtually insoluble in water and can thus be separated from water mechanically in suitable effluent treatment plants.

Elimination information

30 - 40 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EEC, C.4-D) (aerobic, activated sludge, domestic)

Assessment of stability in water

In contact with water the substance will hydrolyse slowly.

Information on Stability in Water (Hydrolysis) t_{1/2} 326 d (25 °C, pH value 7), (calculated, pH 7)

Bioaccumulative potential

Assessment bioaccumulation potential

Accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments

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

13. Disposal considerations

Waste disposal of substance:

Observe national and local legal requirements.

Dispose of in a licensed facility. Do not discharge into drains/surface waters/groundwater.

Container disposal:

Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport TDG

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

Not Applicable

16. Other Information

The information presented here is believed to be accurate and pertains only to the product when stored in a sealed condition, as prescribed here. The information is given in good faith, but no warranty, express or implied, is made. Users should make their own investigations, for their specific applications and processes, to determine the suitability of the safety information mentioned here. Chemical Bull Pvt Ltd will in no way be liable for any claims, losses and / or damages of any third party, or for lost profits, or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, from the use of this product