

Safety data sheet

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BASF Safety data sheet according to the United Nations' Globally Harmonized System (UN GHS)

Date / Revised: 20.09.2023

Version: 4.0

Product: **Behenylacrylate 22 F (BEA 22 F)**

(ID no. 30731746/SDS_GEN_00/EN)

Date of print 30.05.2024

1. Identification

Product identifier

Behenylacrylate 22 F (BEA 22 F)

Chemical name: Docosyl acrylate

INDEX-Number: 607-133-00-9

CAS Number: 18299-85-9

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Chemical

Recommended use: industrial chemicals

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Petrochemicals

Telephone: +49 621 60-42151

E-mail address: sds-petrochemicals@basf.com

Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

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According to UN GHS criteria

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

Label elements

Globally Harmonized System (GHS)

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

Other hazards

According to UN GHS criteria

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. See section 12 - Results of PBT and vPvB assessment.

3. Composition/Information on Ingredients

Substances

Chemical nature

Docosyl acrylate (Content (W/W): $\geq 90\%$ - $\leq 100\%$)

CAS Number: 18299-85-9

EC-Number: 242-182-6

INDEX-Number: 607-133-00-9

Hazardous ingredients (GHS)

According to UN GHS criteria

Octadecyl acrylate

Content (W/W): $\geq 0\%$ - $\leq 0,9\%$ Skin Sens. 1

CAS Number: 4813-57-4 H317

EC-Number: 225-383-3

INDEX-Number: 607-133-00-9

Hexadecyl acrylate

Content (W/W): $\geq 0\%$ - $\leq 0,9\%$ Skin Sens. 1

CAS Number: 13402-02-3 H317

EC-Number: 236-492-0

INDEX-Number: 607-133-00-9

Tetracosyl acrylate

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Content (W/W): $\geq 0\%$ - $\leq 2\%$

CAS Number: 50698-54-9

EC-Number: 256-721-8

INDEX-Number: 607-133-00-9

Skin Corr./Irrit. 2

Eye Dam./Irrit. 2A

STOT SE 3 (irr. to respiratory syst.)

Aquatic Chronic 2

H319, H315, H335, H411

Specific concentration limit:

STOT SE 3, irr. to respiratory syst.: $\geq 10\%$

For the classifications not written out in full in this section the full text can be found in section 16.

Mixtures

Not applicable

4. First-Aid Measures

Description of first aid measures

| Remove contaminated clothing.

If inhaled:

| Keep patient calm, remove to fresh air.

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 200-300 ml of water.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

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

Indication of any immediate medical attention and special treatment needed

| Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

dry powder, water spray, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:

water jet

Additional information:

Use extinguishing measures to suit surroundings.

Special hazards arising from the substance or mixture

Self-polymerization if overheated in a container. Cool endangered containers with water-spray.

| The product is combustible. See SDS section 7 - Handling and storage.

Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus. Special protective equipment for firefighters

Further information:

Extend fire extinguishing measures to the surroundings. Fight fire from maximum distance. Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition.

In case of a fire in the vicinity a restabilization system should be used if the temperature in the bulk storage-tank reaches 45°C. Evacuate area of all unnecessary personnel. In case of a fire in the vicinity evacuate all personnel in a greater area if the temperature in the bulk storage-tank reaches 60°C.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

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

Release of substance/product can cause fire or explosion. Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

Pack in tightly closed containers for disposal.

Personal precautions, protective equipment and emergency procedures

Handle in accordance with good industrial hygiene and safety practice.

Avoid all sources of ignition: heat, sparks, open flame. Use antistatic tools.

Environmental precautions

Discharge into the environment must be avoided.

Methods and material for containment and cleaning up

For large amounts: Pump off product.

Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations. Ensure adequate ventilation. Suppress gases/vapours/mists with water spray jet. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Cleaning operations should be carried out only while wearing breathing apparatus. Pick up with suitable appliance and dispose of.

7. Handling and Storage

Precautions for safe handling

The substance/ product may be handled only by appropriately trained personnel. Facility parts must be checked for polymer residues and cleaned on regular basis in order to avoid hazardous reactions.

Ensure thorough ventilation of stores and work areas. Encapsulation or exhaust ventilation required. Vent waste air to atmosphere only through suitable separators. Check the condition of seals and connector screw threads.

The temperatures which must be avoided are to be considered. Protect against heat. Protect contents from the effects of light. Do not open warm or swollen product containers. Remove persons to safety and alert fire brigade.

Ensure adequate inhibitor and dissolved oxygen level.

Avoid inhalation of dusts/mists/vapours. Avoid aerosol formation. Avoid all direct contact with the substance/product.

Protection against fire and explosion:

Avoid all sources of ignition: heat, sparks, open flame. Ground all transfer equipment properly to prevent electrostatic discharge. It is recommended that all conductive parts of the machinery are grounded.

Heated containers should be cooled to prevent polymerization. If exposed to fire, keep containers cool by spraying with water. Emergency cooling must be provided for the eventuality of a fire in the vicinity.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Prior to storage ensure that the transfer equipment used and the intended storage containers do not contain other substances/products. Before transfer to stock the identity of the product must be proved to be without doubt. The entrance to storage rooms is to be granted only to appropriately trained personnel.

The stabilizer is only effective in the presence of oxygen. Maintain contact with atmosphere containing 5 - 21% oxygen. Never use tanks with inert-gas installation for storage.

Risk of polymerization. Protect against heat. Avoid UV-light and other radiation with high energy.

Protect against contamination.

In case of bulk storage, the storage-tanks should at least be equipped with two high temperature alert devices.

Even if the product is stored and handled as prescribed/indicated it should be used up within the indicated duration of storage.

Storage stability:

Storage temperature: < 35 °C

Storage duration: 12 Months

Storage temperature: 60 °C

Storage duration: < 0,2 Months

The stated storage temperature should be noted.

Avoid prolonged storage.

This product should be processed as soon as possible.

Ensure adequate inhibitor and dissolved oxygen level.

Do not store with less than 10 % headspace above liquid.

Storage stability is based upon ambient temperatures and conditions described.

It is recommended to keep a safe distance of +2 degrees above the crystallization range.

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The product is stabilized, the shelf life should be noted.

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Exposure controls

Personal protective equipment

Respiratory protection:

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

Hand protection:

nitrile rubber (NBR) - 0.4 mm coating thickness

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. 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.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Avoid contact with skin. Avoid inhalation of vapour. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	solid, waxy type
Colour:	white to light yellow
Odour:	oily
Odour threshold:	not determined
pH value:	not applicable, insoluble

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Melting temperature:	approx. 30 °C The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.	(DTA)
Boiling point:	(1.013 hPa) The substance / product decomposes therefore not determined.	
Flash point:	not applicable, the product is a solid	
Evaporation rate:	The product is a non-volatile solid.	
Flammability:	not highly flammable	(Directive 84/449/EEC, A.10)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Ignition temperature:	not applicable	
Vapour pressure:	0,000003 hPa (25 °C) < 0,000001 hPa (20 °C) The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.	(calculated) (OECD Guideline 104)
Density:	0,945 g/cm3 (20 °C) 0,849 g/cm3 (50 °C)	(OECD Guideline 109)
Relative density:	0,945 (20 °C)	
Relative vapour density (air):	> 1 (20 °C) Heavier than air.	(estimated)
Solubility in water:	The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. < 0,1 mg/l (20 °C)	(OECD Guideline 105)
Partitioning coefficient n-octanol/water (log Kow):	> 6,5 (23 °C; pH value: 6,4)	(OECD Guideline 117)
Self ignition:	Temperature: 20 °C Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature.

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Temperature: > 400 °C	Test type: Self-ignition at high temperatures.
The product has not been tested.	(Method: Directive 84/449/EEC, A.16)
The statement has been derived from substances/products of a similar structure or composition.	

Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.

Viscosity, dynamic:

not applicable, the product is a solid
Based on the chemical structure there is no indication of explosive properties.

Explosion hazard:

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

Other information

Self heating ability: It is not a substance capable of spontaneous heating.

SADT: Not a substance/mixture liable to self-decomposition according to GHS.

pKA:

not soluble, The substance does not dissociate.

Adsorption/water - soil: log KOC: 6,24 (calculated)

Surface tension:

Study technically not feasible.

Grain size distribution: The substance / product is marketed or used in a non solid or granular form.

Molar mass: 380,65 g/mol

Other Information:

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

10. Stability and Reactivity**Reactivity**

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

Corrosion to metals: Corrosive effects to metal are not anticipated.

Formation of flammable gases:

Remarks:

Forms no flammable gases in the presence of water.

Chemical stability

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

Possibility of hazardous reactions

Ignitable air mixtures can form when the product is heated above the flash point and/or when sprayed or atomized.

Polymerization coupled with heat formation.

Risk of spontaneous polymerization by oxygen depletion of the liquid phase. Risk of spontaneous polymerization when heated or in the presence of UV radiation. Risk of spontaneous and violent self-polymerization if inhibitor is lost or product is exposed to excessive heat.

Reacts with nitric acid. Risk of spontaneous polymerization in the presence of starters for radical chain reactions (e.g. peroxides). Risk of spontaneous polymerization in the presence of oxidizing agents.

Hazardous reactions in presence of mentioned substances to avoid.

The product is stabilized against spontaneous polymerization prior to despatch. The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid heat. Avoid oxygen content above the product of less than 5 %. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss. Avoid excessive temperatures.

Incompatible materials

Substances to avoid:

radical formers, free radical initiators, peroxides, oxidizing agents, reducing agents, strong bases, strong acids

Inert gas

Hazardous decomposition products

Hazardous decomposition products:

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

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): > 2.000 mg/kg (OECD Guideline 423)

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

(by inhalation): No data available.

LD50 rat (dermal): > 5.000 mg/kg (OECD Guideline 402)

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

Irritation

Assessment of irritating effects:

Not irritating to eyes and skin. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. The European Union (EU) has classified the substance as "irritating to skin and eyes".

Experimental/calculated data:

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

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

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

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

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

No sensitizing effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

In vitro assay: Non-sensitizing. (In vitro skin sensitization test battery)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Germ cell mutagenicity**Assessment of mutagenicity:**

The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Carcinogenicity**Assessment of carcinogenicity:**

The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity**Assessment of reproduction toxicity:**

The results of animal studies gave no indication of a fertility impairing effect. The results were determined in a Screening test (OECD 421/422). 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:**

No indications of a developmental toxic / teratogenic effect were seen in animal studies. The results were determined in a Screening test (OECD 421/422). The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure. The European Union (EU) has classified the substance as "causing irritation of the respiratory tract"

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)**Assessment of repeated dose toxicity:**

No substance-specific organotoxicity was observed after repeated administration to animals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aspiration hazard

not applicable

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. Toxic to aquatic organisms based on long-term (chronic) toxicity study data.

EU-classification The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Toxicity to fish:

LL50 (96 h) > 100 mg/l, Brachydanio rerio (OECD Guideline 203, static)

The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test). The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic invertebrates:

EL50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test). The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic plants:

EL50 (72 h) > 100 mg/l (growth rate), Desmodesmus subspicatus (OECD Guideline 201, static)

The details of the toxic effect relate to the nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Microorganisms/Effect on activated sludge:

EC50 (3 h) > 1.000 mg/l, activated sludge, domestic (OECD Guideline 209, static)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Chronic toxicity to fish:

No data available.

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Chronic toxicity to aquatic invertebrates:

EC10 (21 d) \geq 100 mg/l, Daphnia magna (OECD Guideline 211)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Assessment of terrestrial toxicity:

No data available.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Biodegradable. Under enhanced conditions The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Elimination information:

> 60 - 70 % CO₂ formation relative to the theoretical value (60 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge, domestic) Biodegradable.

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Assessment of stability in water:

No data available.

Bioaccumulative potential

Assessment bioaccumulation potential:

Does not accumulate in organisms.

Bioaccumulation potential:

Bioconcentration factor: 35,27 (calculated)

Does not accumulate in organisms.

Mobility in soil

Assessment transport between environmental compartments:

Volatility: No data available.

Adsorption in soil: Adsorption to solid soil phase is expected.

Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria. Self classification

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling vPvB (very persistent/very bioaccumulative) criteria. Self classification

Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice:

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The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

13. Disposal Considerations

Waste treatment methods

Dispose of in accordance with national, state and local regulations.

Contaminated packaging:

Disposal must be made according to official regulations.

14. Transport Information

Land transport

ADR

Not classified as a dangerous good under transport regulations

UN number or ID number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

RID

Not classified as a dangerous good under transport regulations

UN number or ID number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

Inland waterway transport

ADN

Not classified as a dangerous good under transport regulations

UN number or ID number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

15. Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Skin Sens.	Skin sensitization
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
STOT SE	Specific target organ toxicity — single exposure
Aquatic Chronic	Hazardous to the aquatic environment - chronic

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H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.

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.

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