

Material Safety Data Sheet

HALS 944

1. Identification

Product identifier used on the label

HALS 944

Recommended use of the chemical and restriction on use

Recommended use*: additive for the plastics
industry stabilizer; industrial chemicals

Details of the supplier of the safety data sheet

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Other means of identification

Chemical family: Sterically hindered amine light stabilizer

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200 Classification of the product

Combustible Dust Combustible Dust (1) Combustible Dust

Label elements

Signal Word:

Warning

Hazard Statement:

May form combustible dust concentration in air.

Hazards not otherwise classified

The product is under certain conditions capable of dust explosion.

Labeling of special preparations (GHS):

To avoid inhalation hazard, do not grind.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part

1910.1200 CAS Number	Weight %	Chemical name
70624-18-9	<= 100.0%	1,6-Hexanediamine, N,N'-bis(2, 2, 6, 6-tetramethy-4-piperidiny)-, polymer with 2, 4, 6-trichloro-1, 3, 5-triazine, reaction products with 2, 4, 4-trimethyl-2-pentanamine

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

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

If on skin:

Wash thoroughly with soap and water.

If irritation develops, seek medical attention.

If in eyes:

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

If irritation develops, seek medical attention.

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Most important symptoms and effects, both acute and delayed

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.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: dry powder, foam

Unsuitable extinguishing media for safety reasons: carbon dioxide

Additional information:

Avoid whirling up the material/product because of the danger of dust explosion.

Special hazards arising from the substance or mixture

Hazards during fire-fighting: harmful vapours

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

Advice for firefighters

Protective equipment for fire-fighting:

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

Further information:

Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

6. Accidental release measures

Further accidental release measures:

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective clothing.

Environmental precautions

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

7. Handling and Storage

Precautions for safe handling

Breathing must be protected when large quantities are decanted without local exhaust ventilation.

Closed containers should only be opened in well-ventilated areas. Avoid dust formation. Do not use any sparking tools.

Protection against fire and explosion:

Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids (2013 Edition) for safe handling.

Dust explosion class: Dust explosion class 2 (Kst-value 200 up to 300 bar m s⁻¹).

Conditions for safe storage, including any incompatibilities

8. Exposure Controls/Personal Protection

The nuisance dust limit value is to be kept.

Advice on system design:

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment Respiratory protection:

Respiratory protection may not be required under normal operating conditions if adequate ventilation is provided.

Hand protection:

Wear chemical resistant protective gloves.

Eye protection:

Safety glasses with side-shields.

Body protection:

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

General safety and hygiene measures:

Wear protective clothing as necessary to minimize contact. Handle in accordance with good

9. Physical and Chemical Properties

Form:	powder to fine
Odour:	granules
Odour	odourless
threshold:	No data available.

Colour:	white to slightly yellow
pH value:	6.8 (1 %(m), 20 - 25 °C) (as aqueous solution)
Melting point:	100 - 135 °C
Boiling point:	not applicable
Sublimation point:	No data available.
Flash point:	not applicable, the product is a solid
Flammability:	not flammable
Lower explosion limit:	No data available.
Upper explosion limit:	No data available.
Autoignition:	410 °C
Vapour pressure:	The product has not been tested.
Relative density:	No data available.
Bulk density:	450 - 610 g/l
Vapour density:	No data available.
Partitioning coefficient octanol/water (log	2.44 (20 - 25 °C)
Self-ignition temperature:	not self-igniting
Thermal decomposition:	No decomposition if correctly stored and handled.
Viscosity, dynamic:	not determined
Viscosity, kinematic:	No data available.
Solubility in water:	< 0.1 mg/l (20 °C)
Solubility (quantitative):	No data available.
Solubility (qualitative):	No data available.
Evaporation rate:	The product is a non-volatile solid.
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

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: not fire-propagating

Dust explosivity characteristics:

Kst: 203 m.bar/s Reevaluation 2015

Dust explosion class:

Dust explosion class 2 (Kst-value 200 up to 300 bar m s⁻¹) (St 2)

Chemical stability

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

Possibility of hazardous reactions

Conditions to avoid

Avoid dust formation. Avoid deposition of dust. Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static charge.

Incompatible materials

strong acids, strong bases, strong oxidizing agents

Hazardous decomposition products

Decomposition products:

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

Thermal decomposition:

No decomposition if correctly stored and handled.

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: Overexposure to dust may cause lung damage.

Oral

Type of value: LD50 Species: rat

Value: > 5,000 mg/kg (OECD Guideline 401)

Inhalation

*Information on: Polymeric sterically hindered amine light stabiliser Type of value: LC50 Species: rat
Value: 0.112 mg/*

Exposure time: 4 h

Dermal

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

Value: > 3,000 mg/kg (OECD Guideline 402)

No mortality was observed.

Assessment other acute effects Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Irritation / corrosion

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

Skin

Species: rabbit Result: non-irritant

Eye

Species: rabbit

Result: non-irritant

Method: OECD Guideline 405

Sensitization

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

Guinea pig maximization test Species: guinea pig Result: Non-sensitizing.

Method: OECD Guideline 406

Aspiration Hazard No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: Based on available Data, the classification criteria are not met.

Repeated exposure may cause effects on the liver, lymph nodes, spleen and blood.

Experimental/calculated data: OECD Guideline 408 rat (Sprague-Dawley) (male/female)

oral feed 3 months 0, 100, 500, 2000, 10000 ppm NOAEL: approx. 7 mg/kg

OECD Guideline 453 rat (Sprague-Dawley) (male/female) oral feed 24 months 0, 5, 30, and 200 mg/kg

NOAEL: 5 mg/kg

OECD Guideline 408 rat (Sprague-Dawley) (male/female) oral feed 6 months 0, 5, 30, 200 mg/kg NOAEL: 5 mg/kg

Genetic toxicity

Assessment of mutagenicity: Based on the ingredients, there is no suspicion of a mutagenic effect.

Carcinogenicity

Assessment of carcinogenicity: None of the components in this product at concentrations greater than 0.1% are listed by IARC; NTP, OSHA or ACGIH as a carcinogen. In long-term studies in rats in which the substance was given by feed, a carcinogenic effect was not observed.

Based on the ingredients there is no suspicion of a carcinogenic effect in humans.

Experimental/calculated data: OECD Guideline 453 rat (Sprague-Dawley) (male/female) oral feed 0, 5, 30, and 200 mg/kg Result: negative

Reproductive toxicity

Assessment of reproduction toxicity: Based on the ingredients, there is no suspicion of a toxic effect on reproduction.

Teratogenicity

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

Other Information

There is no formation of respirable dust during intended uses. However, if dust formation occurs at processing/finishing processing steps like regranulation, mechanical machining (for example drilling, grinding etc.), occupational protection regulations have to be considered.

Symptoms of Exposure

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.

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.

Persistence and degradability Assessment

biodegradation and elimination (H₂O)

The product is virtually insoluble in water and can thus be separated from water mechanically in suitable effluent treatment plants.

Elimination information

Not readily biodegradable (by OECD criteria).

Bioaccumulative potential

Assessment bioaccumulation potential

Significant accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.

Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control. The product has not been tested. The statement has been derived from the properties of the individual components.

13. Disposal considerations

Waste disposal of substance:

Do not discharge into drains/surface waters/groundwater. Dispose of in accordance with national, state and local regulations.

Container disposal:

Dispose of in accordance with national, state and local regulations. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

Not classified as a dangerous good under transport regulations

Sea transport

UNSC

Not classified as a dangerous good under transport regulations

Air transport

ATA/CAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations Registration status:

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Fire (Combustible Dust);

CA Prop. 65:

WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

NFPA Hazard codes:

Health : 1 Fire: 2 Reactivity: 0 Special: **HMIS III rating**

Health: 1^ Flammability: 2 Physical hazard:0

16. Other Information

