

Safety Data Sheet

Irganox® MD 1024

Revision date : 2016/06/08

Version: 3.0

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(30475225/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Irganox® MD 1024

Recommended use of the chemical and restriction on use

Recommended use*: stabilizer; antioxidant

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Synonyms: Bis(3,5-di-tert-butyl-4-hydroxyhydrocinnamoyl)hydrazine

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:

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May form combustible dust concentration in air.

Hazards not otherwise classified

The product is under certain conditions capable of dust explosion.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

This product does not contain any components classified as hazardous under the referenced regulation.

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.

If swallowed:

Rinse mouth and then drink plenty of water. Do not induce vomiting. Immediate medical attention required.

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 known specific antidote.

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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 fire-fighters

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.

Methods and material for containment and cleaning up

Nonsparking tools should be used.

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:

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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 3 (Kst-value >300 bar m s-1).

Conditions for safe storage, including any incompatibilities

No applicable information available.

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

8. Exposure Controls/Personal Protection

No occupational exposure limits known.

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:

Breathing protection if breathable aerosols/dust are formed. Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.

Observe OSHA regulations for respirator use (29 CFR 1910.134).

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 industrial hygiene and safety practice. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Form:	powder
Odour:	odourless
Odour threshold:	No applicable information available.

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Colour:	white to cream	
pH value:	6 (1 %(m), 20 - 25 °C) (as suspension)	
Melting point:	228.6 °C	(other)
Boiling point:	not applicable	
decomposition point:	> 275 °C	(measured)
Sublimation point:	No applicable information available.	
Flash point:	> 180 °C	(DIN 51584)
Flammability:	not highly flammable	(Regulation 440/2008/EC, A.10)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Autoignition:	390 °C	
Vapour pressure:	< 0.00001 Pa (20 °C)	(measured)
Density:	1.11 g/cm ³ (20 °C)	(pycnometer)
Relative density:	No applicable information available.	
Bulk density:	320 - 380 kg/m ³	
Vapour density:	No applicable information available.	
Partitioning coefficient n- octanol/water (log Pow):	4.8 (23 °C)	(OECD Guideline 117)
Self-ignition temperature:	not self-igniting not self-igniting	(Regulation 440/2008/EC, A.16)
Viscosity, dynamic:	not determined	
Particle size:	D50 35.5 µm	(134001)
Solubility in water:	< 0.05 mg/l (20 °C)	
Solubility (quantitative):	No applicable information available.	
Solubility (qualitative):	No applicable information available.	
Molar mass:	552.8 g/mol 552.80 g/mol	
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

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
not fire-propagating

Dust explosivity characteristics:
Kst: 325 m.bar/s
Revaluation 2015

Dust explosion class:
Dust explosion class 3 (Kst-value >300 bar m s-1) (St 3)

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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

The product may contain explosive fine dust or such dust may be produced by abrasion during transport or product transfer.

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 oxidizing agents, strong bases, strong acids

Hazardous decomposition products

Decomposition products:

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

(dynamic (Lütolf oven))

(Isoperibolic (Lütolf oven))

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: > 7,000 mg/kg

Inhalation

No data available.

Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg (OECD Guideline 402)

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

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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

Method: OPP 81-5 (EPA-Guideline)

Eye

Species: rabbit

Result: non-irritant

Method: EPA Guideline

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

not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No adverse effects were observed after repeated exposure in animal studies.

Genetic toxicity

Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in a test with mammals.

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

Reproductive toxicity

Assessment of reproduction toxicity: Repeated oral uptake of the substance did not cause damage to the reproductive organs.

Teratogenicity

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

Symptoms of Exposure

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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. 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. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms.

Toxicity to fish

LC50 (96 h) > 57 mg/l, Brachydanio rerio (OECD 203; ISO 7346; 84/449/EEC, C.1, static)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. Limit concentration test only (LIMIT test). No toxic effects occur within the range of solubility. The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates

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

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

Aquatic plants

EC10 (72 h) > 10 mg/l (growth rate), Desmodium subspicatus (OECD Guideline 201, static)

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

EC50 (72 h) > 10 mg/l (growth rate), Desmodium subspicatus (OECD Guideline 201, static)

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

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

DIN EN ISO 8192-OECD 209-88/302/EEC,P. C aerobic

activated sludge, domestic/EC20 (3 h): ≥ 100 mg/l

The details of the toxic effect relate to the nominal concentration.

DIN EN ISO 8192-OECD 209-88/302/EEC,P. C aerobic

activated sludge, domestic/EC50 (3 h): ≥ 100 mg/l

The details of the toxic effect relate to the nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

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Not readily biodegradable (by OECD criteria). Poorly biodegradable.

Elimination information

6 % 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)

Assessment of stability in water

Study does not need to be conducted. Study technically not feasible.

Bioaccumulative potential

Assessment bioaccumulation potential

Significant accumulation in organisms is not to be expected.

Bioaccumulation potential

Bioconcentration factor: < 10 (60 d), Cyprinus carpio (OECD-Guideline 305)
Based on a weight of evidence, the compound will not bioaccumulate.

Bioconcentration factor: 2 - 12 (56 d), Cyprinus carpio (OECD Guideline 305 C)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. Based on a weight of evidence, the compound will not bioaccumulate.

Mobility in soil

Assessment transport between environmental compartments

Adsorption to solid soil phase is expected.

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

USDOT

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

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15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

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

NFPA Hazard codes:

Health : 1 Fire: 2 Reactivity: 0 Special:

HMIS III rating

Health: 1 Flammability: 2 Physical hazard: 0

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2016/06/08

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