1. Identification

Product identifier used on the label

Irganox® L 01

Recommended use of the chemical and restriction on use

Recommended use*: Chemical

* 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

Chemical family: substance

2. Hazards Identification


Classification of the product

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Acute</td>
<td>3</td>
<td>Hazardous to the aquatic environment - acute</td>
</tr>
<tr>
<td>Aquatic Chronic</td>
<td>3</td>
<td>Hazardous to the aquatic environment - chronic</td>
</tr>
<tr>
<td>Combustible Dust</td>
<td></td>
<td>Combustible Dust (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Combustible Dust</td>
</tr>
</tbody>
</table>

Label elements

Signal Word:
Warning
Hazard Statement:
May form combustible dust concentration in air.
H402 Harmful to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):
P273 Avoid release to the environment.

Precautionary Statements (Disposal):
P501 Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified
The product is under certain conditions capable of dust explosion.

3. Composition / Information on Ingredients


<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Weight %</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>15721-78-5</td>
<td>100.0 %</td>
<td>Benzenamine, 4-(1,1,3,3-tetramethylbutyl)-N-[4-(1,1,3,3-tetramethylbutyl)phenyl]-diphenylamine</td>
</tr>
<tr>
<td>122-39-4</td>
<td>&gt;= 0.1 - &lt; 0.2%</td>
<td></td>
</tr>
</tbody>
</table>

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

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.
Hazards: No applicable information available.
Indication of any immediate medical attention and special treatment needed

**Note to physician**
Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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:**
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.

**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

**Components with occupational exposure limits**

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>diphenylamine</td>
<td>TWA value 10 mg/m³</td>
<td>TWA value 10 mg/m³</td>
</tr>
</tbody>
</table>

**Advice on system design:**
Use only in well-ventilated areas.

**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.


**Hand protection:**
Wear chemical resistant protective gloves.

**Eye protection:**
Safety glasses with side-shields.

**Body protection:**
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

**General safety and hygiene measures:**
Wear protective clothing as necessary to minimize contact. Handle in accordance with good industrial hygiene and safety practice. Avoid inhalation of dusts.
9. Physical and Chemical Properties

Form: powder, crystalline
Odour: odourless
Odour threshold: No applicable information available.
Colour: white to yellow
pH value: 7.7
(1 % (m), 20 - 25 °C)
(as suspension)
Melting point: approx. 102 °C
Boiling point: No applicable information available.
Sublimation point: No applicable information available.
Flash point: > 150 °C
Flammability: Based on the chemical structure there is no indication of flammability
Lower explosion limit: For solids not relevant for classification and labelling.
Upper explosion limit: For solids not relevant for classification and labelling.
Autoignition: No applicable information available.
Vapour pressure: 0.016 mPa
Relative density: No applicable information available.
Bulk density: 0.5 g/cm³
Vapour density: No applicable information available.
Partitioning coefficient n-octanol/water (log Pow): > 8 (calculated)
Self-ignition temperature: not self-igniting
Thermal decomposition: >= 180 °C
Viscosity, dynamic: not determined
Viscosity, kinematic: No applicable information available.
% volatiles: not determined
Solubility (quantitative): No applicable information available.
Solubility (qualitative): No applicable information 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.

Oxidizing properties:
not fire-propagating

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 acids, strong bases, strong oxidizing agents

Hazardous decomposition products

De composition products:
Hazardous decomposition products: nitrogen oxides, toxic gases/vapours, carbon oxides

Thermal decomposition:
>= 180 °C

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.

Oral
Type of value: LD50
Species: rat
Value: > 5,000 mg/kg

Inhalation
No applicable information available.

Dermal
No applicable information available.

Assessment other acute effects
No applicable information available.

Irritation / corrosion
Assessment of irritating effects: Not irritating to eyes and skin.

Skin
Species: rabbit
Result: non-irritant

Eye
Species: rabbit
Result: non-irritant

Sensitization
Assessment of sensitization: Based on the ingredients, there is no suspicion of a skin-sensitizing potential.

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: No applicable information available.

Genetic toxicity
Assessment of mutagenicity: No applicable information available.

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.

Reproductive toxicity
Assessment of reproduction toxicity: No applicable information available.

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: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Toxicity to fish
LC50 (24 h) 10 mg/l, Salmo sp.
Literature data.

Aquatic invertebrates
EC50 51 mg/l, Daphnia magna
Based on SAR profile.

Aquatic plants
EC50 > 100 mg/l, algae
Literature data.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
activated sludge/EC50 (3 h): > 100 mg/l
Based on SAR profile.

Persistence and degradability

Elimination information
Not readily biodegradable (by OECD criteria).
Literature data.

**Bioaccumulative potential**

**Bioaccumulation potential**
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is possible.

**Mobility in soil**

**Assessment transport between environmental compartments**
No data available.

**Additional information**

Other ecotoxicological advice:
Do not discharge product into the environment without control.

### 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

### 15. Regulatory Information

**VOC content:**
not determined

**Federal Regulations**

**Registration status:**
Chemical TSCA, US released / listed
EPCRA 311/312 (Hazard categories): Not hazardous;

NFPA Hazard codes:
Health: 1  Fire: 1  Reactivity: 0  Special:

HMIS III rating
Health: 1  Flammability: 1  Physical hazard: 0

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2017/01/04

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