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

Aquatic Acute 3 Hazardous to the aquatic environment - acute
Aquatic Chronic 3 Hazardous to the aquatic environment - chronic
Combustible Dust Combustible Dust (1) Combustible Dust

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 in accordance with local regulations.

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]-</td>
</tr>
<tr>
<td>122-39-4</td>
<td>&gt;= 0.1 - &lt; 0.2%</td>
<td>diphenylamine</td>
</tr>
</tbody>
</table>

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

If on skin:
Remove contaminated clothing. Rinse skin immediately with plenty of water for 15 - 20 minutes. 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.
Hazard: No applicable information available.
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.

---

### 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.
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**

Decomposition 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

Repeatead 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

Federal Regulations

Registration status:
Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.
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: 2018/05/21

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

Irganox® L 01 is a registered trademark of BASF Corporation or BASF SE
IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET