# SAFETY DATA SHEET

**Revision Date** 24-Dec-2021 **Revision Number** 5

## 1. Identification

**Product Name** **4,4`-Bis(dimethylamino)benzophenone**

**Cat No. :** **AC164490000; AC164490050; AC164491000; AC164495000**

**CAS No** 90-94-8
**Synonyms** Michler`s ketone

**Recommended Use** Laboratory chemicals.
**Uses advised against** Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet**

**Company**

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

**Emergency Telephone Number** For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
**CHEMTREC** Tel. No.**US:**001-800-424-9300 / **Europe:**001-703-527-3887

## 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|---|
| Serious Eye Damage/Eye Irritation | Category 1 |
| Germ Cell Mutagenicity | Category 2 |
| Carcinogenicity | Category 1B |

**Label Elements**

**Signal Word**
Danger

**Hazard Statements**
Causes serious eye damage
Suspected of causing genetic defects
May cause cancer

**Precautionary Statements**
**Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
**Response**
IF exposed or concerned: Get medical attention/advice
**Eyes**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
**Storage**
Store locked up
**Disposal**
Dispose of contents/container to an approved waste disposal plant
**Hazards not otherwise classified (HNOC)**

WARNING. Cancer - https://www.p65warnings.ca.gov/.

## 3. Composition/Information on Ingredients

| Component | CAS No | Weight % |
|---|---|---|
| Michler's ketone | 90-94-8 | 98 |

## 4. First-aid measures

**Eye Contact** Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

**Skin Contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

**Inhalation** Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately.

**Most important symptoms and effects** Causes eye burns. Causes severe eye damage.

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray. Carbon dioxide ($CO_2$). Dry chemical. Chemical foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** 220 °C / 428 °F

**Method -** No information available

**Autoignition Temperature** 480 °C / 896 °F

**Explosion Limits**

| | |
|---|---|
| **Upper** | No data available |
| **Lower** | No data available |
| **Sensitivity to Mechanical Impact** | No information available |
| **Sensitivity to Static Discharge** | No information available |

**Specific Hazards Arising from the Chemical**
Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous Combustion Products**
Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide ($CO_2$).
**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

| Health | Flammability | Instability | Physical hazards |
|---|---|---|---|
| 2 | 1 | 0 | N/A |

## 6. Accidental release measures

**Personal Precautions** Use personal protective equipment as required. Ensure adequate ventilation. Avoid contact with skin and eyes. Keep people away from and upwind of spill/leak. Avoid dust formation.

**Environmental Precautions** See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up** Use personal protective equipment as required. Sweep up and shovel into suitable containers for disposal. Do not let this chemical enter the environment. Avoid dust formation. Provide adequate ventilation.

## 7. Handling and storage

**Handling** Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Use only under a chemical fume hood. Wear personal protective equipment/face protection. Avoid dust formation.

**Storage.** Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Incompatible Materials. Strong oxidizing agents. Strong reducing agents.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies.

**Engineering Measures** Ensure that eyewash stations and safety showers are close to the workstation location. Use only under a chemical fume hood.

**Personal Protective Equipment**

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard

EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

| | |
|---|---|
| **Physical State** | Powder Solid |
| **Appearance** | Dark blue |
| **Odor** | Odorless |
| **Odor Threshold** | No information available |
| **pH** | No information available |
| **Melting Point/Range** | 171 - 176 °C / 339.8 - 348.8 °F |
| **Boiling Point/Range** | No information available > @ 760 mmHg |
| **Flash Point** | 220 °C / 428 °F |
| **Evaporation Rate** | Not applicable |
| **Flammability (solid,gas)** | No information available |
| **Flammability or explosive limits** | |
| **Upper** | No data available |
| **Lower** | No data available |
| **Vapor Pressure** | No information available |
| **Vapor Density** | Not applicable |
| **Specific Gravity** | > 1.0 |
| **Solubility** | No information available |
| **Partition coefficient; n-octanol/water** | No data available |
| **Autoignition Temperature** | 480 °C / 896 °F |
| **Decomposition Temperature** | > 300°C |
| **Viscosity** | Not applicable |
| **Molecular Formula** | C17 H20 N2 O |
| **Molecular Weight** | 268.35 |

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions.

**Conditions to Avoid** Incompatible products.

**Incompatible Materials** Strong oxidizing agents, Strong reducing agents

**Hazardous Decomposition Products** Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide ($CO_2$)

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

**Acute Toxicity**

**Product Information** No acute toxicity information is available for this product

**Component Information**

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** Causes eye burns

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|---|---|---|---|---|---|
| Michler's ketone | 90-94-8 | Group 2B | Reasonably Anticipated | Not listed | X | Not listed |

**Mutagenic Effects** Substances which cause concern for man owing to possible mutagenic effects but for which the available information is not adequate for making a satisfactory assessment

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known
**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects,both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**
Do not empty into drains. .

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT** Not regulated
**TDG** Not regulated
**IATA** Not regulated
**IMDG/IMO** Not regulated

## 15. Regulatory information

**United States of America Inventory**

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|---|---|---|---|---|
| Michler's ketone | 90-94-8 | X | ACTIVE | - |

**Legend:**
**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|---|---|---|---|---|---|---|---|---|---|---|
| Michler's ketone | 90-94-8 | X | - | 202-027-5 | X | X | X | X | X | KE-03043 |

**KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

**U.S. Federal Regulations**

**SARA 313**

| Component | CAS No | Weight % | SARA 313 - Threshold Values % |
|---|---|---|---|
| Michler's ketone | 90-94-8 | 98 | 0.1 |

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA** - Occupational Safety and Health Administration Not applicable

**CERCLA** Not applicable

**California Proposition 65** This product contains the following Proposition 65 chemicals.

| Component | CAS No | California Prop. 65 | Prop 65 NSRL | Category |
|---|---|---|---|---|
| Michler's ketone | 90-94-8 | Carcinogen | 0.8 µg/day | Carcinogen |

**U.S. State Right-to-Know Regulations**

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---|---|---|---|---|---|
| Michler's ketone | X | X | X | X | - |

**U.S. Department of Transportation**

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH**

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---|---|---|---|
| Michler's ketone | - | Use restricted. See item 28. (see link for restriction details) | SVHC Candidate list - Carcinogenic (Article 57a) |

| | | | |
|---|---|---|---|
| | | Use restricted. See item 75.<br>(see link for restriction details) | |

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

*https://echa.europa.eu/authorisation-list*
*https://echa.europa.eu/substances-restricted-under-reach*
*https://echa.europa.eu/candidate-list-table*

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|---|---|---|---|---|---|
| Michler's ketone | 90-94-8 | Not applicable | Not applicable | Not applicable | Not applicable |

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---|---|---|---|---|---|
| Michler's ketone | 90-94-8 | Not applicable | Not applicable | Not applicable | Not applicable |

## 16. Other information

**Prepared By**
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

**Revision Date** 24-Dec-2021
**Print Date** 24-Dec-2021
**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**
**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

**End of SDS**