

MATERIAL SAFETY DATA SHEET

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Version 1.5

Section 1 - Product and Company Information

Product Name 4,4'-BIS(DIMETHYLAMINO)BENZOPHENONE
Product Number 69772
Brand FLUKA

Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
MICHLER'S KETONE	90-94-8	Yes

Formula C17H20N2O
Synonyms p,p'-Bis(N,N-dimethylamino)benzophenone *
4,4'-Bis(dimethylamino)benzophenone *
Bis(p-(N,N-dimethylamino)phenyl)ketone *
Bis(4-(dimethylamino)phenyl)methanone * Michler
ketone * Michler's ketone * p,p'-Michler's ketone
* NCI-C02006 * Tetramethyldiaminobenzophenone
RTECS Number: DJ0250000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Toxic.
May cause cancer. Risk of serious damage to eyes. Possible risk of irreversible effects.
Calif. Prop. 65 carcinogen.

HMIS RATING

HEALTH: 2*
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING

HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is

conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes severe eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

TOXICITY DATA

Oral

Bird (wild)

100 mg/kg

LD50

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Species: Rat

Route of Application: Oral

Dose: 15 GM/KG

Exposure Time: 78W

Frequency: C

Result: Liver:Tumors. Tumorigenic:Carcinogenic by RTECS criteria.

Species: Mouse

Route of Application: Oral

Dose: 82 GM/KG

Exposure Time: 78W

Frequency: C

Result: Tumorigenic:Carcinogenic by RTECS criteria.

Liver:Tumors. Vascular:Tumors.

Species: Rat

Route of Application: Oral

Dose: 27 GM/KG

Exposure Time: 78W

Frequency: C

Result: Tumorigenic:Carcinogenic by RTECS criteria. Liver:Tumors.

Species: Rat

Route of Application: Oral

Dose: 8 GM/KG

Exposure Time: 78W

Frequency: C

Result: Tumorigenic:Neoplastic by RTECS criteria. Liver:Tumors.

Species: Mouse

Route of Application: Oral

Dose: 164 GM/KG

Exposure Time: 78W

Frequency: C
Result: Tumorigenic: Carcinogenic by RTECS criteria.
Liver: Tumors. Vascular: Tumors.

NTP CARCINOGEN LIST

Rating: Clear evidence.
Species: Mouse/rat
Route: Feed

CHRONIC EXPOSURE - MUTAGEN

Result: Laboratory experiments have shown mutagenic effects.

Species: Rat
Dose: 1240 NG/PLATE
Cell Type: Embryo
Mutation test: Morphological transformation.

Species: Rat
Route: Intraperitoneal
Dose: 7500 UG/KG
Mutation test: DNA damage

Species: Rat
Route: Oral
Dose: 200 MG/KG
Mutation test: Unscheduled DNA synthesis

Species: Rat
Dose: 5 MG/L
Cell Type: liver
Mutation test: Unscheduled DNA synthesis

Species: Mouse
Dose: 4 MG/L (+S9)
Cell Type: lymphocyte
Mutation test: Mutation in microorganisms

Species: Mouse
Dose: 30 UG/L
Cell Type: Embryo
Mutation test: Morphological transformation.

Species: Rat
Route: Intraperitoneal
Dose: 7500 UG/KG
Mutation test: Sister chromatid exchange

Species: Mouse
Dose: 13100 UG/L
Cell Type: lymphocyte
Mutation test: Mutation in mammalian somatic cells.

Species: Hamster
Dose: 1500 UG/L
Cell Type: fibroblast
Mutation test: Cytogenetic analysis

Species: Hamster
Dose: 1500 UG/L
Cell Type: fibroblast
Mutation test: SLN

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations. (DN)Requires special label: "Contains a substance which is regulated by Dannish work environmental law due to the risk of carcinogenic properties."

Section 14 - Transport Information

DOT

Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: T
Indication of Danger: Toxic.
R: 45-41-68
Risk Statements: May cause cancer. Risk of serious damage to eyes. Possible risk of irreversible effects.
S: 53-45
Safety Statements: Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Toxic.
Risk Statements: May cause cancer. Risk of serious damage to eyes. Possible risk of irreversible effects.
Safety Statements: Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
US Statements: Calif. Prop. 65 carcinogen.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
DEMINIMIS: 0.1 %
NOTES: This product is subject to SARA section 313 reporting requirements.
TSCA INVENTORY ITEM: Yes

UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer. This product is or contains chemical(s) known to the state of California to cause cancer.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2010 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.