

• SAFETY DATA SHEET

Version 6.9
Revision Date 12/08/2025
Print Date 12/09/2025

SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : 2,2'-Methylenebis(6-*tert*-butyl-4-methylphenol)

Product Number : 413135
Brand : Aldrich
Index-No. : 604-095-00-5
CAS-No. : 119-47-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Aldrich - 413135

Page 1 of 14

Combustible dust

Reproductive toxicity : Category 1B

Other hazards

May form explosible dust-air mixture if dispersed.

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : May form combustible dust concentrations in air.
H360 May damage fertility or the unborn child.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

CAS-No. : 119-47-1

Components

| Chemical name | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|---|-------------------|-----------------------|--------------|
| 2,2'-methylenebis(4-methyl-6-tert.-butylphenol) | 119-47-1* | >= 90 - <= 100 | - |

* Indicates that the identifier is a CAS No.

SECTION 4. FIRST AID MEASURES

| | |
|---|--|
| General advice | : Show this safety data sheet to the doctor in attendance. |
| If inhaled | : After inhalation: fresh air. Call in physician. |
| In case of skin contact | : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician. |
| In case of eye contact | : After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses. |
| If swallowed | : After swallowing: immediately make victim drink water (two glasses at most). Consult a physician. |
| Most important symptoms and effects, both acute and delayed | : The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 |
| Protection of first-aiders | : For personal protection see section 8. |
| Notes to physician | : No data available |

SECTION 5. FIREFIGHTING MEASURES

| | |
|---------------------------------------|--|
| Suitable extinguishing media | : Water Foam Carbon dioxide (CO ₂) Dry powder |
| Unsuitable extinguishing media | : For this substance/mixture no limitations of extinguishing agents are given. |
| Specific hazards during fire fighting | : Combustible. |

Risk of dust explosion.

Development of hazardous combustion gases or

vapours possible in the event of fire.

| | |
|--|---|
| Hazardous combustion products | : Carbon oxides |
| Specific extinguishing methods | : No data available |
| Further information | : Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| Special protective equipment for fire-fighters | : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| Personal precautions, protective equipment and emergency procedures | : Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8. |
| Environmental precautions | : Do not let product enter drains. |
| Methods and materials for containment and cleaning up | : Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts. |

SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

| | |
|---|--|
| Advice on protection against fire and explosion | : Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. |
| Advice on safe handling | : Work under hood. Do not inhale substance/mixture. |

| | |
|---|---|
| Further information on storage conditions | : Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons. |
| Storage class | : 6.1C, Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects |
| Recommended storage temperature | : Recommended storage temperature see product label. |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : No data available

Personal protective equipment

Respiratory protection : required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: : Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

| | |
|--------------------|------------------------|
| Material | : Nitrile rubber |
| Break through time | : 480 min |
| Glove thickness | : 0.11 mm |
| Protective index | : Full contact |
| Manufacturer | : KCL 741 Dermatril® L |

| | |
|--------------------|------------------------|
| Material | : Nitrile rubber |
| Break through time | : 480 min |
| Glove thickness | : 0.11 mm |
| Protective index | : Splash contact |
| Manufacturer | : KCL 741 Dermatril® L |

Aldrich - 413135

Page 5 of 14

| | |
|--------------------------|---|
| Remarks | : This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). |
| Eye protection | : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses |
| Skin and body protection | : protective clothing |
| Hygiene measures | : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------------|--|
| Appearance | : powder |
| Color | : white |
| Odor | : slight |
| Odor Threshold | : No data available |
| pH | : No data available |
| Melting point/ range | : 253 - 261 °F / 123 - 127 °C Method: lit. |
| Boiling point/boiling range | : No data available |
| Flash point | : No data available |
| Evaporation rate | : No data available |
| Flammability (solid, gas) | : May form combustible dust concentrations in air. |
| Flammability (liquids) | : No data available |
| Burning rate | : No data available |
| Self-ignition | : > 338 °F / > 170 °C |

Aldrich - 413135

Page 6 of 14

Method: Relative self-ignition temperature for solids

| | |
|---|---|
| Upper explosion limit / Upper flammability limit | : No data available |
| Lower explosion limit / Lower flammability limit | : 10,000 mg/m ³ (626 °F / 330 °C) Medium: Dust |
| Vapor pressure | : No data available |
| Relative vapour density | : No data available |
| Relative density | : No data available |
| Density | : 1.07 g/cm ³ (68 °F / 20 °C) |
| Solubility(ies) Water solubility | : 0.00001 g/l insoluble (68 °F / 20 °C) Method: OECD Test Guideline 105 GLP: yes |
| Partition coefficient: n- octanol/water | : log Pow: 6.25 (68 °F / 20 °C) Method: OECD Test Guideline 107 Potential bioaccumulation |
| Autoignition temperature | : 662 °F / 350 °C |
| Decomposition temperature | : No data available |
| Viscosity, dynamic | : No data available |
| Viscosity, kinematic | : No data available |
| Flow time | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : none |
| Molecular weight | : 340.50 g/mol |
| Particle characteristics Particle size | : No data available |

SECTION 10. STABILITY AND REACTIVITY

| | |
|------------|---|
| Reactivity | : The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion |
|------------|---|

Aldrich - 413135

Page 7 of 14

potential may generally be assumed.

| | |
|------------------------------------|---|
| Chemical stability | : The product is chemically stable under standard ambient conditions (room temperature) . |
| Possibility of hazardous reactions | : Violent reactions possible with: Oxidizing agents bases acids |
| Conditions to avoid | : no information available |
| Incompatible materials | : No data available |
| Hazardous decomposition products | : In the event of fire: see section 5 |

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 4,880 mg/kg

Remarks: (RTECS)

Inhalation: No data available

LD50 Dermal - Rabbit - male - > 10,000 mg/kg

Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: Does not cause skin sensitisation.

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Aldrich - 413135

Page 8 of 14

Test system: mammalian cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

May damage fertility.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Repeated dose toxicity - Rat - male - Oral - No observed adverse effect level - 12.5 mg/kg
- Lowest observed adverse effect level - 50 mg/kg
Remarks: Subacute toxicity

RTECS: PA3500000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2,2'-methylenebis(4-methyl-6-tert.-butylphenol):

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): > 5 mg/l
End point: mortality
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes
Remarks: (above the solubility limit in the test medium)

| | |
|--|---|
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (<i>Daphnia magna</i> (Water flea)): > 4.8 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes Remarks: (above the solubility limit in the test medium) |
| Toxicity to algae/aquatic plants | : ErC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): > 5 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes Remarks: (above the solubility limit in the test medium) NOEC (<i>Pseudokirchneriella subcapitata</i> (green algae)): 1.3 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes Remarks: (above the solubility limit in the test medium) |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC (<i>Daphnia magna</i> (Water flea)): 0.34 mg/l Exposure time: 21 d Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes Remarks: (above the solubility limit in the test medium) |
| Toxicity to microorganisms | : EC50 (activated sludge): > 10,000 mg/l Exposure time: 3 h Test Type: static test Method: OECD Test Guideline 209 Remarks: (above the solubility limit in the test medium) |

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Persistence and degradability

Components:

2,2'-methylenebis(4-methyl-6-tert.-butylphenol):

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 100 mg/l
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301C
GLP: yes

Bioaccumulative potential

Components:

2,2'-methylenebis(4-methyl-6-tert.-butylphenol):

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 320 - 780
Exposure time: 60 d
Temperature: 77 °F / 25 °C
Concentration: 0.2 µg/l
Method: OECD Test Guideline 305
GLP: yes

Partition coefficient: n-octanol/water : log Pow: 6.25 (68 °F / 20 °C)
Method: OECD Test Guideline 107
Remarks: Potential bioaccumulation

Mobility in soil

Components:

2,2'-methylenebis(4-methyl-6-tert.-butylphenol):

Stability in soil : Remarks: No data available

Other adverse effects

Components:

2,2'-methylenebis(4-methyl-6-tert.-butylphenol):

Additional ecological information : Discharge into the environment must be avoided.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other

waste. Handle uncleaned containers like the product itself.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National Regulations

49 CFR Road

Not regulated as a dangerous good

Poison Inhalation Hazard : No

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Chronic Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Maine Chemicals of High Concern

Aldrich - 413135

Page 12 of 14

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

The components of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and

Aldrich - 413135

Page 13 of 14

Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Copyright 2025 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

Revision Date : 12/08/2025

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

US / EN