



MATERIAL SAFETY DATA SHEET

according to the Global Harmonized System

Date of issue: 03/16/2013

Version 1.0

SECTION 1. Identification

Product identifier

Product number 842857
Product name 4,4'-Methylenebis(2,6-di-tert-butylphenol) for synthesis

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

Identified uses Chemical for synthesis

Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821,
United States of America | SDS Phone Support: +1-978-715-1335 |
General Inquiries: +1-978-751-4321 | Monday to Friday, 9:00 AM to
4:00 PM Eastern Time (GMT-5)

e-mail: mm_sds@merckgroup.com

Emergency telephone 613-996-6666 CANUTEC (Canada)
+1-703-527-3887 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Chronic aquatic toxicity, Category 4, H413

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard Statements

H413 May cause long lasting harmful effects to aquatic life.

Precautionary Statements

P273 Avoid release to the environment.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula $C_{29}H_{44}O_2$ (Hill)
CAS-No. 118-82-1
Molar mass 424.67 g/mol

MATERIAL SAFETY DATA SHEET
according to the Global Harmonized System

Product number 842857
Product name 4,4'-Methylenebis(2,6-di-tert-butylphenol) for synthesis

Version 1.0

Remarks WHMIS hazardous composition: No ingredients are hazardous according to the CPR criteria.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air.

Skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing.

Eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Ingestion

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

We have no description of any toxic symptoms.

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Water, Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible material

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapors possible in the event of fire.

Advice for firefighters

Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation of dusts; do not inhale dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

MATERIAL SAFETY DATA SHEET
according to the Global Harmonized System

Product number 842857
Product name 4,4'-Methylenebis(2,6-di-tert-butylphenol) for synthesis

Version 1.0

Environmental precautions

Do not empty into 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Tightly closed. Dry.

Store at +15°C to +25°C (+59°F to +77°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state crystals

MATERIAL SAFETY DATA SHEET
according to the Global Harmonized System

Product number 842857 Version 1.0
Product name 4,4'-Methylenebis(2,6-di-tert-butylphenol) for synthesis

Color	yellow
Odor	weak
Odor Threshold	No information available.
pH	No information available.
Melting point	153 - 156 °C
Boiling point/boiling range	ca. 423 °F (217 °C) at 1 hPa
Flash point	432 °F (222 °C) Method: open cup
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	< 0.1 hPa at 77 °F (25 °C)
Relative vapor density	No information available.
Relative density	0.99 g/cm ³ at 68 °F (20 °C)
Water solubility	< 0.0001 g/l at 68 °F (20 °C)
Partition coefficient: n-octanol/water	log Pow: 7.4 A remarkable bioaccumulation potential is expected (log Po/w >3). (External MSDS)
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	No information available.

SECTION 10. Stability and reactivity

Reactivity

Forms explosive mixtures with air on intense heating.

MATERIAL SAFETY DATA SHEET
according to the Global Harmonized System

Product number 842857
Product name 4,4'-Methylenebis(2,6-di-tert-butylphenol) for synthesis

Version 1.0

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Strong oxidizing agents

Exothermic reaction with:

Conditions to avoid

Strong heating.

Incompatible materials

no information available

Hazardous decomposition products

no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact, Ingestion

Acute oral toxicity

LD50 rat: > 5,000 mg/kg

OECD Test Guideline 401

Acute dermal toxicity

LD50 rabbit: > 2,000 mg/kg

OECD Test Guideline 402

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or

MATERIAL SAFETY DATA SHEET
according to the Global Harmonized System

Product number 842857
Product name 4,4'-Methylenebis(2,6-di-tert-butylphenol) for synthesis

Version 1.0

ACGIH equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Further data:

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

LC50 fish: > 1,000 mg/l; 96 h (above the solubility limit in the test medium) (IUCLID)

Toxicity to daphnia and other aquatic invertebrates

EC50 Daphnia: > 100 mg/l; 48 h (above the solubility limit in the test medium) (External MSDS)

Persistence and degradability

Biodegradability

Not readily biodegradable.

Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: 7.4

A remarkable bioaccumulation potential is expected (log Po/w >3). (External MSDS)

Mobility in soil

No information available.

Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)

MATERIAL SAFETY DATA SHEET
according to the Global Harmonized System

Product number 842857
Product name 4,4'-Methylenebis(2,6-di-tert-butylphenol) for synthesis

Version 1.0

Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

TSCA 12b

Ingredients

2,2',6,6'-Tetra-tert-butyl-4,4'-methylenediphenol 118-82-1

Canada

WHMIS Classification

Not controlled under WHMIS (Canada).

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Notification status

TSCA: On TSCA Inventory

DSL: All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Full text of H-Statements referred to under sections 2 and 3.

H413 May cause long lasting harmful effects to aquatic life.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Date of issue: 03/16/2013

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

All rights reserved. Millipore and the "M" Mark are registered trademarks of Merck KGaA, Darmstadt, Germany.