



MAXGARD® 1000

SAFETY DATA SHEET

Replaced Version 2017-02-28
Revision Date 2018-01-23

1. PRODUCT AND COMPANY INFORMATION

Product Name : 2,2',4,4'-Tetrahydroxybenzophenone
Product Number : MAXGARD® 1000
Brand : MAXGARD®
REACH Status : Pre-registered 2008-09-17
Identified Uses : UV stabilizer; Laboratory chemicals; Manufacture of substances
Company : Lycus Ltd., LLC
181 Cooper Drive
El Dorado, AR 71730-6601
USA

Telephone : +1 870-881-5000
Fax : +1 870-862-9628
Emergency Phone Number : +1 800-424-9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards Harmful by ingestion. Irritant.

GHS Label elements, including precautionary statements

Pictogram



Signal Word Warning

Hazard statement(s)

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapor/spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/eye protection/face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.



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P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P321 Specific treatment (see supplemental first aid instructions on this label).
P330 Rinse mouth.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal plant.

HMIS Classification

Health Hazard	1	Blue
Flammability	1	Red
Physical Hazards	0	Orange
Personal Protection	H	Safety Glasses, Gloves, Synthetic Apron, Vapor Respirator

NFPA 704 Rating

Health Hazard	1	Blue
Fire	1	Red
Reactivity Hazard	0	Yellow

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed.

EU/International Classification of the substance or mixture

According to Regulation (EC) No1272/2008

Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity – single exposure (Category 3)

According to European Directive 67/548/EEC as amended.

Irritating to eyes, respiratory system and skin.

EU/International Label elements

Hazard symbol(s)

Xn Harmful

R-phrases(s)

R22, R36/37/38 Harmful if swallowed. Irritating to eyes, respiratory system and skin.

S-phrases(s)

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39 Wear suitable gloves and eye/face protection.



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Other Hazards None

3. COMPOSITION/INFORMATION OF INGREDIENTS

Formula : C₁₃H₁₀O₅
Molecular Weight : 246.22 g/mol
Synonyms : Benzophenone-2, Methanone, bis(2,4-dihydroxyphenyl)-

CAS-No.	EC-No.	Index-No.	EU/International Classification	Concentration
2,2',4,4'-Tetrahydroxybenzophenone				
131-55-5	205-028-9	-	Acute Tox. 4, Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H302, H315, H319, H335, Xn, R22, R36/37/38	>98%
Water				
7732-18-5	231-791-2	-	-	<2%

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

4. FIRST AID MEASURES

General advice

Move out of dangerous area. Remove contaminated clothing. Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes with eyelids held open. Consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Note to physician

Treatment: Symptomatic treatment (decontamination, vital functions). No known specific antidote.

5. FIRE-FIGHTING MEASURES



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Suitable extinguishing media

Use water spray, alcohol-resistant foam or dry chemical. Carbon dioxide is not recommended because it is an asphyxiant.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. – Carbon oxides

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and turn-out gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventative fire protection.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Personal protective equipment

Respiratory protection



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For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Ensure respirators conform to 29 CFR 1910.134.

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Recommended: Protective index 6, corresponding >480 minutes of permeation time according to EN 374
E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm)

Supplementary note Specifications are based on internal tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to the many conditions (e.g. temperature) that must be considered, the practical usage of a chemical protective glove in service may be much shorter than the determined permeation time.

Eye protection

Eye and face protection conforming to 29 CFR 1910.133 or EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin and body protection

Complete suit protecting against chemicals. Impervious clothing, the type of protective clothing must be selected according to the concentration and amount of dangerous substance at the specific workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	powder
Color	light yellow

Safety data

Odor	characteristic
pH	no data available
Melting point	195 – 202.5 °C
Boiling point	no data available
Flash point	no data available
Avg. Maximum Pressure(Pmax)	7.56 – 9.24 bar
Deflagration Index(Kst)	221 – 271 bar m/s
Min. ignition Energy(MIE)	1 < MIE < 3 mJ Es = 1.4
Min. Auto-Ign.Temp(MIT Cloud)	>600 °C
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Water solubility	(20 °C) sparingly soluble

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Solubility (qualitative)	soluble; solvent(s): organic solvents
Density	1.21 g/cm ³ (25 °C)(DIN EN ISO 787-10)
Bulk density: approx.	500 kg/m ³

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions

Conditions to avoid

No conditions known that should be avoided

Materials to avoid

Strong oxidizing agents, Strong bases

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. – Carbon oxides

Other decomposition products – no data available

Corrosion to metals

No corrosive effect on metal

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral	LD50/rat: 1,225 mg/kg – lit.
Dermal	no data available
Inhalation	no data available

Skin corrosion/irritation

Skin irritation	rabbit: non-irritant (Draize test)
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Serious eye damage/eye irritation

Eye irritation	rabbit: non-irritant (Draize test)
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Respiratory or skin sensitization

Mouse Local Lymph Node Assay (LLNA)/mouse: Non-sensitizing

Germ cell mutagenicity

Genotoxicity in vitro – mouse – lymphocyte
Cytogenetic analysis

Genotoxicity in vitro – mouse – lymphocyte
Sister chromatid exchange

Carcinogenicity

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

Reproductive toxicity

No data available

Specific target organ toxicity – single exposure

Inhalation	May cause respiratory irritation.
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Specific target organ toxicity – repeated exposure

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

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

Additional Information

RTECS	DJ1892000
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12. ECOLOGICAL INFORMATION

Eco toxicity

Acute and Chronic toxicity to fish

DIN 38412 Part 15 static golden orfe/LC50 (96 h):	22 - 46 mg/l The details of the toxic effect relate to the nominal concentration.
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Acute toxicity to aquatic microorganisms

DIN 38412 Part 27 (draft) bacterium/EC50 (0.5 h):	5,800 mg/l The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.
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OECD Guideline 209 aerobic activated sludge, domestic/EC20 (0.5 h):	34 mg/l
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Acute toxicity to aquatic invertebrates



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OECD Guideline 202 static green algae/EC50 (48 h): 52.5 mg/l
The details of the toxic effect relate to the nominal concentration.

Acute toxicity to aquatic plants

OECD Guideline 201 static green algae/EC50 (0.5 h): 27.9 mg/l
The details of the toxic effect relate to the nominal concentration.

Persistence and degradability

Biodegradation

Test method: OECD 301E; 84/449/EEC, C.3 (aerobic), activated sludge, domestic
Method of analysis: DOC reduction
Degree of elimination: 0-10% (28 d)

Test method: OECD Guideline 302 B (aerobic), activated sludge, domestic
Method of analysis: DOC reduction
Degree of elimination: 90-100% (28 d)

Evaluation: Not readily biodegradable (by OECD criteria). Poor biodegradability. Easily eliminated from water.

Bio accumulative potential

Not expected to cause significant accumulation in organisms.

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable materials to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

RCRA requirements

None

14. TRANSPORT INFORMATION

DOT (US)



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Not dangerous goods

IMDG

Not dangerous goods

TDG (Canada)

Not dangerous goods

ICAO/IATA

Not dangerous goods

ADR/RID

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

Harmful by ingestion. Irritant.

TSCA Inventory

CAS No. 131-55-5 is listed/approved

SARA 302 Components

SARA 302: No chemicals in this material are subject to the requirements of SARA Title III, Section 302.

SARA 313 Components

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.

SARA 311/312

Acute Health Hazard

Massachusetts Right to Know Components

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

Pennsylvania Right to Know Components

2,2',4,4'-Tetrahydroxybenzophenone

CAS No. Revision Date

131-55-5 2009-07-17

New Jersey Right to Know Components

2,2',4,4'-Tetrahydroxybenzophenone

CAS No. Revision Date

131-55-5 2009-07-17

California Prop. 65 Components

This product does not contain any chemical known to the State of California to cause cancer, birth defects, or any other reproductive harm.

DSL Status

CAS No. 131-55-5 is on the Canadian DSL list

WHMIS Classification

D2B

Toxic Material Causing Other Toxic Effects

Moderate skin irritant



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Moderate respiratory irritant
Moderate eye irritant

WGK (Water Danger/Protection)

CAS No. 131-55-5 WGK1

Regulation (EC) No. 1907/2006

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. OTHER INFORMATION

In accordance with good practices of personal cleanliness and hygiene handle with due care and avoid unnecessary contact with this product.

This information is being supplied to you under OSHA "Right to Know / Right to Understand" Regulation 29 CFR 1910.1200 and is offered in good faith as typical values and not as a product specification. The information contained herein is based on the data available to us and is believed to be true and accurate.

No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the material, or the results obtained from the use thereof, is made. Lycus Ltd. assumes no responsibility for damage or injury from the use of the product described herein.

Lycus Ltd. certifies this product:

- Does not contain any ingredient of animal origin.
- Does not contain the beverage alcohol and beverage alcohol has not been used in the manufacturing process.

Text of H-code(s) and R-phrase(s) mentioned in Section 3

Acute Tox.	Acute toxicity
Eye Irrit.	Eye irritation
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
Skin Irrit.	Skin irritation
STOT SE	Specific target organ toxicity – single exposure
Xn	Harmful
R22	Harmful if swallowed
R36/37/38	Irritating to eyes, respiratory system and skin

Further information

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Data prepared: November 26, 2002
Date of revision September 5, 2012



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Date of revision	December 1, 2013
Date of revision	December 7, 2015
Date of revision	February 28, 2017
Date of revision	January 23, 2018