

SAFETY DATA SHEET

Version 6.1
Revision Date 07/25/2018
Print Date 11/19/2018

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Phenol-d<SB>6</>

Product Number : 176060

Brand : Aldrich

CAS-No. : 13127-88-3

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

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

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

Telephone : +1 314 771-5765

Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 2), H330

Acute toxicity, Dermal (Category 3), H311

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

Germ cell mutagenicity (Category 2), H341

Specific target organ toxicity - repeated exposure (Category 2), H373

Acute aquatic toxicity (Category 3), H402

Chronic aquatic toxicity (Category 2), H411

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

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H301 + H311

Toxic if swallowed or in contact with skin.

H314

Causes severe skin burns and eye damage.

H330

Fatal if inhaled.

H341

Suspected of causing genetic defects.

H373

May cause damage to organs through prolonged or repeated exposure.

H402

Harmful to aquatic life.

H411

Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201

Obtain special instructions before use.

P202

Do not handle until all safety precautions have been read and understood.

P260

Do not breathe dust/ fume/ gas/ mist/ vapours/ 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.

P273

Avoid release to the environment.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P284

Wear respiratory protection.

P301 + P310 + P330

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.

P301 + P330 + P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P310

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 + P310

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/doctor.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

P362

Take off contaminated clothing and wash before reuse.

P391

Collect spillage.

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.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Vesicant., Rapidly absorbed through skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : Hexadeuterophenol

Formula : C₆D₆O

Molecular weight : 100.09 g/mol

CAS-No. : 13127-88-3

EC-No. : 236-063-8

Hazardous components

Component	Classification	Concentration
-----------	----------------	---------------

Phenol-D6		
	Acute Tox. 3; Acute Tox. 2; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Muta. 2; STOT RE 2; Aquatic Acute 3; Aquatic Chronic 2; H301 + H311, H314, H330, H341, H373, H402, H411	<= 100 %

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

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

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

If inhaled

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

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 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

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 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.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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

Storage class (TRGS 510): 6.1B: Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Hazardous components without workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin 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.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.2 mm

Break through time: 30 min

Material tested: Dermatrill® P (KCL 743 / Aldrich Z677388, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

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

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

a) Appearance	Form: solid
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point/range: 40 - 42 °C (104 - 108 °F) - lit.
f) Initial boiling point and boiling range	182 °C (360 °F) - lit.
g) Flash point	79.0 °C (174.2 °F) - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 8.6 %(V) Lower explosion limit: 1.7 %(V)
k) Vapour pressure	0.36 hPa at 20.0 °C (68.0 °F)
l) Vapour density	No data available
m) Relative density	1.14 g/mL at 25 °C (77 °F)
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	log Pow: 1.46
p) Auto-ignition temperature	715.0 °C (1319.0 °F)
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

No data available

10. STABILITY AND REACTIVITY**10.1 Reactivity**

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents, Strong bases, Strong acids

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 317 mg/kg

Remarks: (RTECS)

LDLo Oral - Human - 140 mg/kg

Remarks: (RTECS)

absorption

LC50 Inhalation - Rat - 4 h - 316 mg/m³

Remarks: (RTECS)

Inhalation: absorption

Inhalation: Corrosive to respiratory system.

LD50 Dermal - Rat - 525 - 714 mg/kg

Remarks: (IUCLID)

Dermal: absorption

Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns.

Remarks: (IUCLID)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes burns.

Remarks: (IUCLID)

Causes serious eye damage.

Respiratory or skin sensitisation

Sensitisation test: - Guinea pig

Result: negative

Remarks: (IUCLID)

Germ cell mutagenicity

Suspected of causing genetic defects.

Ames test

Salmonella typhimurium

Result: negative

(National Toxicology Program)

Mutagenicity (mammal cell test):

Result: positive

(National Toxicology Program)

Mutagenicity (mammal cell test): chromosome aberration.

Result: positive

(National Toxicology Program)

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

Specific target organ toxicity - single exposure

Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure. - Nervous system, Kidney, Liver, Skin

Aspiration hazard

Additional Information

RTECS: Not available

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Circulatory collapse, tachypnea, paralysis, Convulsions, Coma., necrosis of mouth and G.I. Tract, Jaundice, respiratory failure, cardiac arrest

Systemic effects:

After absorption:

Headache, Dizziness, Drowsiness, confusion, inebriation, cardiovascular disorders, Changes in the blood count, respiratory arrest, Unconsciousness, collapse, death

Damage to:

Kidney, Liver, Cardiac

Possible risk of irreversible effects.

Further data:

This substance should be handled with particular care.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 5.0 mg/l - 96 h(Phenol-D6) Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 4.2 mg/l - 48 h(Phenol-D6) Remarks: (ECOTOX Database) EC5 - E.sulcatum - 33 mg/l - 72 h(Phenol-D6) Remarks: (IUCLID)
Toxicity to algae	IC50 - Pseudokirchneriella subcapitata (green algae) - 150 mg/l - 96 h(Phenol-D6) (OECD Test Guideline 201) IC5 - Scenedesmus quadricauda (Green algae) - 7.5 mg/l - 8 d(Phenol-D6) Remarks: (IUCLID)
Toxicity to bacteria	EC5 - Pseudomonas putida - 64 mg/l - 16 h(Phenol-D6) Remarks: (IUCLID) EC50 - activated sludge - 766 mg/l - 3 h(Phenol-D6) (OECD Test Guideline 209)

12.2 Persistence and degradability

Biodegradability Result: 85 % - Readily biodegradable.
(OECD Test Guideline 301C)
Result: 100 % - Easily eliminable.
(OECD Test Guideline 302B)

Biochemical Oxygen Demand (BOD)	1,680 mg/g(Phenol-D6) Remarks: (IUCLID)
---------------------------------	--

Chemical Oxygen Demand (COD)	2,300 mg/g(Phenol-D6) Remarks: (IUCLID)
------------------------------	--

12.3 Bioaccumulative potential

12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

Additional ecological information	Biological effects:
<p> 1. <i>Chironomus tentans</i> is a benthic, invertebrate, aquatic insect. It is a member of the family Chironomidae, which is one of the most diverse and abundant groups of insects in freshwater ecosystems. </p> <p> 2. <i>Chironomus tentans</i> is a small, tube-dwelling insect. It typically constructs a protective tube from organic matter, such as plant debris or mud, in which it resides and lays its eggs. </p> <p> 3. <i>Chironomus tentans</i> is a filter feeder. It uses its specialized mouthparts to filter organic particles and detritus from the water column, which it then consumes. </p> <p> 4. <i>Chironomus tentans</i> is a cold-blooded (ectothermic) organism. Its body temperature and metabolic rate are directly influenced by the temperature of the surrounding water. </p> <p> 5. <i>Chironomus tentans</i> has a relatively short lifespan, typically ranging from a few weeks to a few months, depending on environmental conditions. </p> <p> 6. <i>Chironomus tentans</i> is a key component of the benthic food web. It serves as a primary food source for many aquatic organisms, including fish, amphibians, and other invertebrates. </p> <p> 7. <i>Chironomus tentans</i> plays a role in nutrient cycling. By filtering and consuming organic matter, it helps to break down and recycle nutrients within the ecosystem. </p> <p> 8. <i>Chironomus tentans</i> is sensitive to environmental changes, particularly to changes in water quality and temperature. This makes it a useful indicator species for monitoring the health of aquatic ecosystems. </p>	<p> 1. <i>Chironomus tentans</i> is a highly adaptable species. It can tolerate a wide range of environmental conditions, including varying water temperatures and oxygen levels. </p> <p> 2. <i>Chironomus tentans</i> is a prolific reproducer. It can lay large numbers of eggs, which are often encased in a protective shell, ensuring the survival of the offspring. </p> <p> 3. <i>Chironomus tentans</i> has a high reproductive rate. It can produce multiple generations within a single season, allowing it to quickly replenish its population. </p> <p> 4. <i>Chironomus tentans</i> is a hardy species. It is able to survive in low-oxygen environments and can tolerate periods of drought by retreating into its protective tube. </p> <p> 5. <i>Chironomus tentans</i> is a resilient species. It is able to recover quickly from disturbances, such as changes in water quality or habitat destruction. </p> <p> 6. <i>Chironomus tentans</i> is a hardy species. It is able to survive in low-oxygen environments and can tolerate periods of drought by retreating into its protective tube. </p> <p> 7. <i>Chironomus tentans</i> is a resilient species. It is able to recover quickly from disturbances, such as changes in water quality or habitat destruction. </p>

Forms toxic mixtures in water, dilution measures notwithstanding.
Change in the flavour characteristics of fish protein.
Endangers drinking-water supplies if allowed to enter soil or water.
Further information on ecology
Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions 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.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 1671 Class: 6.1 Packing group: II
Proper shipping name: Phenol, solid
Poison Inhalation Hazard: No

IMDG

UN number: 1671 Class: 6.1 Packing group: II EMS-No: F-A, S-A
Proper shipping name: PHENOL, SOLID
Marine pollutant : yes

IATA

UN number: 1671 Class: 6.1 Packing group: II
Proper shipping name: Phenol, solid

15. REGULATORY INFORMATION

SARA 302 Components

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

SARA 313 Components

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 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

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

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Phenol-D6	13127-88-3	

	CAS-No.	Revision Date
Phenol-D6	13127-88-3	

New Jersey Right To Know Components

	CAS-No.	Revision Date
Phenol-D6	13127-88-3	

California Prop. 65 Components

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

16. OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3.**

H301	Toxic if swallowed.
H301 + H311	Toxic if swallowed or in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H341	Suspected of causing genetic defects.
H373	May cause damage to organs through prolonged or repeated exposure.
H402	Harmful to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Further information

Copyright 2016 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. 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 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.

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956
Version: 6.1

Revision Date: 07/25/2018

Print Date: 11/19/2018