



4-NITROPHENOL-RING-D4 (D, 98%)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 28/03/2011

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Supersedes: 19/10/2016

Version: 5.1

DLM-296

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : 4-NITROPHENOL-RING-D4 (D, 98%)
EC-No. : 202-811-7 (Unlabeled)
CAS-No. : 93951-79-2
Product code : DLM-296
Formula : HOC6D4NO2

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 3 (Oral) H301
Acute Tox. 4 (Dermal) H312
Acute Tox. 4 (Inhalation) H332
STOT RE 2 H373
Aquatic Chronic 2 H411

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

N; R51/53
T; R25
T; R48/25
Xn; R20/21

Full text of R-phrases: see section 16

GHS-US classification

Acute Tox. 3 (Oral) H301
Acute Tox. 4 (Dermal) H312
Acute Tox. 4 (Inhalation) H332
STOT RE 2 H373
Aquatic Chronic 2 H411

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

H301 - Toxic if swallowed
H312+H332 - Harmful in contact with skin or if inhaled
H373 - May cause damage to organs (respiratory tract, Skin) through prolonged or repeated exposure (if swallowed, if inhaled, in contact with skin)
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (CLP) :

P260 - Do not breathe vapors, spray, mist, gas, fume, dust.
P264 - Wash Both hands 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.
P301+P310 - IF SWALLOWED: Immediately call a doctor.
P302+P352 - IF ON SKIN: Wash with plenty of water.

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H301 - Toxic if swallowed
H312+H332 - Harmful in contact with skin or if inhaled
H373 - May cause damage to organs (respiratory tract, Skin) through prolonged or repeated exposure (Dermal, Inhalation, oral)
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :

P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P261 - Avoid breathing vapors, spray, mist, gas, fume, dust.
P264 - Wash both hands 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, face protection, eye protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P312 - Call a poison center or doctor if you feel unwell
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
P330 - Rinse mouth.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
4-NITROPHENOL-RING-D4 (D, 98%)	(CAS-No.) 93951-79-2 (EC-No.) 202-811-7 (Unlabeled)	100	N; R51/53 T; R25 T; R48/25 Xn; R20/21

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
4-NITROPHENOL-RING-D4 (D, 98%)	(CAS-No.) 93951-79-2 (EC-No.) 202-811-7 (Unlabeled)	100	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 STOT RE 2, H373 Aquatic Chronic 2, H411

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
4-NITROPHENOL-RING-D4 (D, 98%) (Main constituent)	(CAS-No.) 93951-79-2	100	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 STOT RE 2, H373 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation	: If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	: Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
First-aid measures after eye contact	: Flush eyes with water as a precaution.
First-aid measures after ingestion	: 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

Symptoms/effects after inhalation	: Harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Harmful if absorbed through skin. May cause skin irritation.
Symptoms/effects after eye contact	: Contact may cause eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 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

Reactivity : No data available.

5.3. Advice for firefighters

Firefighting instructions	: Wear self contained breathing apparatus for fire fighting if necessary.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.1.2. For emergency responders

No additional information available

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 material for containment and cleaning up

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

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6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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.

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

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a cool, dry and well-ventilated place.

Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Crystalline

Molecular mass : 143.13 g/mol (Labeled)

Color : Light yellow to brown

Odor : No data available

Odor threshold : No data available

pH : 4.4 at 5.00000 g/l at 24.0 °C (75.2 °F)

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : 112 °C (233.6 °F)

Freezing point : No data available

Boiling point : 279 °C (534.2 °F)

Flash point : 169 °C (336.2 °F) - closed cup

Auto-ignition temperature : 283 °C (541.4 °F)

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapor pressure : 9.2 hPa (6.9mmHg) at 165.0°C (329 °F); 0.8 hPa (0.6mmHg) at 120.0°C (248.0 °F)

Relative vapor density at 20 °C : No data available

Relative density : 1.48 g/cm³ at 20.00 °C (68.00 °F)

Solubility : Water: 15 g/l

Log Pow : 1.91

Log Kow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : No data available

Oxidizing properties : No data available

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Explosion limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Strong oxidizing agents, Strong bases.

10.6. Hazardous decomposition products

Carbon oxides, Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Harmful in contact with skin. Inhalation: Harmful if inhaled.

4-NITROPHENOL-RING-D4 (D, 98%) (93951-79-2)	
LD50 oral rat	202 mg/kg Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration:Dyspnea.
LD50 dermal rat	1024 mg/kg
ATE CLP (oral)	202.000 mg/kg body weight
ATE CLP (dermal)	1024.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

Skin corrosion/irritation : Not classified

pH: 4.4 at 5.00000 g/l at 24.0 °C (75.2 °F)

Serious eye damage/irritation : Not classified

pH: 4.4 at 5.00000 g/l at 24.0 °C (75.2 °F)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : The substance or mixture is not classified as specific target organ toxicant, repeated exposure. Category 2.

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer, depending on the intensity and duration of exposure, effects may vary from mild irritation to severe destruction of tissues, prolonged or repeated exposure can cause damage to the eyes. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Symptoms/effects after inhalation : Harmful if inhaled. May cause respiratory irritation.

Symptoms/effects after skin contact : Harmful if absorbed through skin. May cause skin irritation.

Symptoms/effects after eye contact : Contact may cause eye irritation.

Symptoms/effects after ingestion : Toxic if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

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LC50 fish 1	26.7 - 31.3 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h
LC50 other aquatic organisms 1	3.8 - 18 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
EC50 Daphnia 1	3.1 - 24 mg/l Daphnia magna (Water flea) - 48 h
LC50 other aquatic organisms 2	30.4 - 67 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 2	11 mg/l No information available. - 48 h.
ErC50 (algae)	11 mg/l 48 h
NOEC (acute)	5.31 mg/l Oncorhynchus mykiss (rainbow trout) - 14 d

12.2. Persistence and degradability

4-NITROPHENOL-RING-D4 (D, 98%) (93951-79-2)

Biodegradation 90 % - Readily biodegradable. aerobic - Exposure time 28 d.

12.3. Bioaccumulative potential

4-NITROPHENOL-RING-D4 (D, 98%) (93951-79-2)

BCF fish 1	0.0441 mg/l Pimephales promelas (fathead minnow) - 28 d
Bioconcentration factor (BCF REACH)	280
Log Pow	1.91

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT) : 1663
DOT NA no. UN1663

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Nitrophenols (o-, m-, p-)
Class (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Hazard labels (DOT) : 6.1 - Poison



DOT Symbols : + - Fixes (cannot be altered) proper shipping name, hazard class, and packing group
Packing group (DOT) : III - Minor Danger

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DOT Special Provisions (49 CFR 172.102)	: IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner. T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 153
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 213
DOT Packaging Bulk (49 CFR 173.xxx)	: 240
DOT RQ	: 100 lbs.
Marine pollutant	: No.



14.3. Additional information

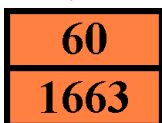
Other information : No supplementary information available.

Overland transport

Packing group (ADR)	: III
Class (ADR)	: 6.1 - Toxic substances
Hazard identification number (Kemler No.)	: 60
Classification code (ADR)	: T2
Hazard labels (ADR)	: 6.1 - Toxic substances



Orange plates :



Tunnel restriction code (ADR)	: E
Limited quantities (ADR)	: 5kg
EAC	: 2X
Excepted quantities (ADR)	: E1

Transport by sea

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
MFAG-No	: 153

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 100 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 200 kg
Civil Aeronautics Law	: Toxic and infectious substances/Toxic substances

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14.4. Environmental hazards

Dangerous for the environment



Other information : No supplementary information available.

14.5. Special precautions for user

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

4-NITROPHENOL-RING-D4 (D, 98%)(93951-79-2)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

15.2. International regulations

CANADA

No additional information available

15.2.1. National regulations

No additional information available

15.3. US State regulations

4-NITROPHENOL-RING-D4 (D, 98%)(93951-79-2)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases:

Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H301	Toxic if swallowed
H312	Harmful in contact with skin
H332	Harmful if inhaled
H373	May cause damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects
R20/21	Harmful by inhalation and in contact with skin
R25	Toxic if swallowed

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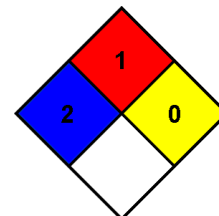
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R48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
N	Dangerous for the environment
T	Toxic
Xn	Harmful

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 1 Slight Hazard
- Physical : 0 Minimal Hazard

CIL Substance SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product