

2-CHLOROETHYL PHOSPHORIC ACID (ETHREL) EXTRA PURE MSDS

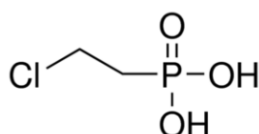
CAS-No.: 16672-87-0 MSDS

MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance
:
EC Index-No. : 015-154-00-4
EC-No. : 240-718-3
CAS-No. : 16672-87-0
Product code : 02763
Chemical structure :



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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
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

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin corrosion/irritation, H314
Category 1B
Acute toxicity (dermal), H312
Category 4
Acute toxicity (inhal.), H332
Category 4
Hazardous to the aquatic H412
environment — Chronic
Hazard, Category 3



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

Xn; R20/21

C; R34

R52/53

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS05



GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H312+H332 - Harmful in contact with skin or if inhaled

H314 - Causes severe skin burns and eye damage.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P273 - Avoid release to the environment.

P280 - Wear protective gloves, protective clothing, eye protection, face protection.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P310 - Immediately call a doctor.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : 2-CHLOROETHYL PHOSPHORIC ACID (ETHREL) Extra Pure

CAS-No. : 16672-87-0

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EC Index-No. : 015-154-00-4

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

3.2. Mixtures

Not applicable

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SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
- First-aid measures after skin contact : Immediately call a POISON CENTER/doctor. Wash with plenty of water/.... Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/effects : Causes severe skin burns and eye damage.
- Symptoms/effects after skin contact : Harmful in contact with skin.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

- 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 : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Use personal protective equipment as required.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers.

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. Do not breathe vapours. Provide good ventilation in process area to prevent formation of vapour.
- Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Comply with applicable regulations.
Storage conditions	: Store in a well-ventilated place. Keep container tightly closed.

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

Hand protection	: Protective gloves
Eye protection	: Chemical goggles or face shield
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: [In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Molecular mass	: 144.49 g/mol
Colour	: Red coloured solution.
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available

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Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Direct sunlight. Overheating. Open flame. Heat.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Thermal decomposition generates : Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Serious eye damage, category 1, implicit

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

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Potential adverse human health effects and symptoms : Harmful in contact with skin.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

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Persistence and degradability	May cause long-term adverse effects in the environment.
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12.3. Bioaccumulative potential

No additional information available

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

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR)	: 2928
UN-No. (IMDG)	: 2928
UN-No. (IATA)	: 2928
UN-No. (ADN)	: 2928
UN-No. (RID)	: 2928

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.
Proper Shipping Name (IMDG)	: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.
Proper Shipping Name (IATA)	: Toxic solid, corrosive, organic, n.o.s.
Proper Shipping Name (ADN)	: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.
Proper Shipping Name (RID)	: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.
Transport document description (ADR)	: UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S., 6.1 (8), II, (D/E)

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Transport document description (IMDG)	: UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S., 6.1 (8), II
Transport document description (IATA)	: UN 2928 Toxic solid, corrosive, organic, n.o.s., 6.1, II
Transport document description (ADN)	: UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S., 6.1 (8), II
Transport document description (RID)	: UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S., 6.1 (8), II

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: 6.1 (8)
Danger labels (ADR)	: 6.1, 8



IMDG

Transport hazard class(es) (IMDG)	: 6.1 (8)
Danger labels (IMDG)	: 6.1, 8



IATA

Transport hazard class(es) (IATA)	: 6.1 (8)
Hazard labels (IATA)	: 6.1, 8



ADN

Transport hazard class(es) (ADN)	: 6.1 (8)
Danger labels (ADN)	: 6.1, 8



RID

Transport hazard class(es) (RID)	: 6.1 (8)
Danger labels (RID)	: 6.1, 8



14.4. Packing group

Packing group (ADR)	: II
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Packing group (IMDG)	: II
Packing group (IATA)	: II
Packing group (ADN)	: II
Packing group (RID)	: II

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	: TC2
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 500g
Excepted quantities (ADR)	: E4
Packing instructions (ADR)	: P002, IBC06
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAH, L4BH
Tank special provisions (ADR)	: TU15, TE19
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V11
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13, CV28
Special provisions for carriage - Operation (ADR)	: S9, S19
Hazard identification number (Kemler No.)	: 68
Orange plates	:



Tunnel restriction code (ADR)	: D/E
EAC code	: 2X

- Transport by sea

Special provisions (IMDG)	: 274
Limited quantities (IMDG)	: 500 g
Excepted quantities (IMDG)	: E4
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC06
IBC special provisions (IMDG)	: B2
Tank instructions (IMDG)	: T3
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW2
MFAG-No	: 154

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- Air transport

PCA Excepted quantities (IATA)	: E4
PCA Limited quantities (IATA)	: Y644
PCA limited quantity max net quantity (IATA)	: 1kg
PCA packing instructions (IATA)	: 668
PCA max net quantity (IATA)	: 15kg
CAO packing instructions (IATA)	: 675
CAO max net quantity (IATA)	: 50kg
Special provisions (IATA)	: A5
ERG code (IATA)	: 6C

- Inland waterway transport

Classification code (ADN)	: TC2
Special provisions (ADN)	: 274, 802
Limited quantities (ADN)	: 500 g
Excepted quantities (ADN)	: E4
Equipment required (ADN)	: PP, EP
Number of blue cones/lights (ADN)	: 2

- Rail transport

Classification code (RID)	: TC2
Special provisions (RID)	: 274
Limited quantities (RID)	: 500g
Excepted quantities (RID)	: E4
Packing instructions (RID)	: P002, IBC06
Mixed packing provisions (RID)	: MP10
Portable tank and bulk container instructions (RID)	: T3
Portable tank and bulk container special provisions (RID)	: TP33
Tank codes for RID tanks (RID)	: SGAH, L4BH
Special provisions for RID tanks (RID)	: TU15
Transport category (RID)	: 2
Special provisions for carriage – Packages (RID)	: W11
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW28, CW31
Colis express (express parcels) (RID)	: CE9
Hazard identification number (RID)	: 68

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

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

2-CHLOROETHYL PHOSPHORIC ACID (ETHREL) Extra Pure is not on the REACH Candidate List

2-CHLOROETHYL PHOSPHORIC ACID (ETHREL) Extra Pure is not on the REACH Annex XIV List

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15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 2, significant hazard to water (Classification according to AwSV; ID No. 689)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

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

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.
R20/21	Harmful by inhalation and in contact with skin
R34	Causes burns
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
C	Corrosive
Xn	Harmful

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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