

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

1.1 Product identifier
Trade name **1-Propylphosphonic acid cyclic anhydride,50+% in DMF**
Stock number: L19271
CAS Number: 68957-94-8


1.2 Relevant identified uses of the substance or mixture and uses advised against.
Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com


Informing department: Product safety Tel + +049 (0) 7275 988687-0
1.4 Emergency telephone number: Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

 GHS08 health hazard

Repr. 1A H360 May damage fertility or the unborn child.

 GHS05 corrosion


Skin Corr. 1B H314 Causes severe skin burns and eye damage.

 GHS07


Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.


Classification according to Directive 67/548/EEC or Directive 1999/45/EC

 T; Toxic

R61: May cause harm to the unborn child.

 C; Corrosive

R34: Causes burns.

 Xn; Harmful

R20/21: Harmful by inhalation and in contact with skin.

Information concerning particular hazards for human and environment:

Not applicable

Other hazards that do not result in classification

No information known.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Hazard statements

The substance is classified and labelled according to the CLP regulation.

GHS05, GHS07, GHS08

Danger

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H360 May damage fertility or the unborn child.

P260

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

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

Precautionary statements**2.3 Other hazards****Results of PBT and vPvB assessment**

PBT:

Not applicable.

vPvB:

Not applicable.

SECTION 3: Composition/information on ingredients**3.1 Substances**

CAS# Designation:

68957-94-8 1-Propylphosphonic acid cyclic anhydride,50+% in DMF

SECTION 4: First aid measures**4.1 Description of first aid measures****General information****After inhalation**

Instantly remove any clothing soiled by the product.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

Trade name **1-Propylphosphonic acid cyclic anhydride,50+% in DMF**

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SECTION 5: Firefighting measures

- 5.1 Extinguishing media**
Suitable extinguishing agents Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.
- 5.2 Special hazards arising from the substance or mixture** If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Phosphorus oxides
- 5.3 Advice for firefighters**
Protective equipment: Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- 6.2 Environmental precautions:** Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.
- 6.3 Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
- Prevention of secondary hazards:** Keep away from ignition sources.
- 6.4 Reference to other sections** See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling** Handle under dry protective gas.
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
Open and handle container with care.
- Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- 7.2 Conditions for safe storage, including any incompatibilities**
Storage
Requirements to be met by storerooms and containers: No special requirements.
- Information about storage in one common storage facility:** Store away from oxidizing agents.
Store away from water.
- Further information about storage conditions:** Store under dry inert gas.
This product is moisture sensitive.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.
Store in a locked cabinet or with access restricted to technical experts or their assistants.
- 7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters
Components with critical values that require monitoring at the workplace:

N,N-Dimethylformamide	
	ppm
ACGIH TLV	10; A4 (skin)
Austria	10 (skin)
Belgium TWA	10 (skin)
Denmark TWA	10 (skin)
Finland TWA	10; 20-STEL (skin)
France VME	10 (skin)
Germany MAK	20 (skin)
Hungary TWA	10; 20-STEL (skin)
Ireland TWA	10; 20-STEL (skin)
Japan OEL	10 (skin); 2B-Carcinogen
Korea TLV	10; A4 (skin)
Netherlands MAC-TGG	10 (skin)
Poland TWA	10 mg/m3; 60 mg/m3-STEL
Russia TWA	10; 10-STEL (skin)
Sweden NGV	10; 15-KTV (skin)
Switzerland MAK-W	10; 20-KZG-W (skin)
United Kingdom TWA	10; 20-STEL (skin)
OSHA PEL	10 (skin)
No data	

Additional information:**8.2 Exposure controls**
Personal protective equipment
General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

Breathing equipment: Use breathing protection with high concentrations.
Protection of hands: Check protective gloves prior to each use for their proper condition.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Material of gloves Impervious gloves
Penetration time of glove material Not determined

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Eye protection: Tightly sealed safety glasses.
Full face protection

Body protection: Protective work clothing.

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SECTION 9: Physical and chemical properties
9.1 Information on basic physical and chemical properties
General Information
Appearance:

Form: Liquid
Colour: Colourless
Smell: Not determined
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: Not determined
Boiling point/Boiling range: 153 °C
Sublimation temperature / start: Not determined

Flash point: 62 °C
Inflammability (solid, gaseous): Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Self-inflammability: Not determined.

Danger of explosion: Product is not explosive.

Critical values for explosion:

Lower: Not determined
Upper: Not determined
Steam pressure: Not determined
Density at 20 °C: 1,09 g/cm³
Relative density: Not determined.
Vapour density: Not determined.
Evaporation rate: Not determined.

Solubility in / Miscibility with Water: Partly miscible
Hydrolyzes

Partition coefficient (n-octanol/water): Not determined.

Viscosity:
dynamic: Not determined.
kinematic: Not determined.

9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity
10.1 Reactivity

No information known.

10.2 Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

No dangerous reactions known

10.5 Incompatible materials:
Oxidizing agents
Water/moisture
10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Phosphorus oxides (e.g. P₂O₅)
SECTION 11: Toxicological information
11.1 Information on toxicological effects
Acute toxicity:
Harmful if inhaled.
Harmful in contact with skin.
Danger by skin resorption.
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
LD/LC50 values that are relevant for classification:

No data

Skin irritation or corrosion:

Causes severe skin burns.

Eye irritation or corrosion:
Irritant effect.
Causes serious eye damage.
Sensitization:

No sensitizing effect known.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:
IARC-3: Not classifiable as to carcinogenicity to humans.
ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.
Reproductive toxicity:

May damage fertility or the unborn child.

Specific target organ system toxicity -

repeated exposure: No effects known.

Specific target organ system toxicity - single

exposure: No effects known.

Aspiration hazard:

No effects known.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information
12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Additional ecological information:

General notes: Do not allow product to reach ground water, water bodies or sewage system.
Do not allow material to be released to the environment without proper governmental permits.
Water hazard class 2 (Self-assessment): hazardous for water.
Danger to drinking water if even small quantities leak into soil.
Avoid transfer into the environment.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

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12.6 Other adverse effects No further relevant information available.

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SECTION 13: Disposal considerations**13.1 Waste treatment methods Recommendation**

Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.

Uncleaned packagings: Recommendation:

Disposal must be made according to official regulations.

SECTION 14: Transport information**UN-Number ADR, IMDG, IATA**

UN3265

14.2 UN proper shipping name ADR

3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Propylphosphonic acid cyclic anhydride,50+% in DMF)

IMDG, IATA

CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Propylphosphonic acid cyclic anhydride,50+% in DMF)

14.3 Transport hazard class(es) ADR**Class Label IMDG, IATA**8 (C3) Corrosive substances.
8**Class Label**8 Corrosive substances.
8**Packing group ADR, IMDG, IATA**

II

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Warning: Corrosive substances.

Kemler Number:

80

Segregation groups

Acids

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:**ADR**

Excepted quantities (EQ):
Limited quantities (LQ)
Transport category
Tunnel restriction code

E2
1L
2
E**UN "Model Regulation":**

UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Propylphosphonic acid cyclic anhydride,50+% in DMF), 8, II

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical**

Substance is not listed.

Substances Standard for the Uniform Scheduling of Drugs and Poisons

Substance is not listed.

National regulations**Information about limitation of use:**

For use only by technically qualified individuals.
Employment restrictions concerning young persons must be observed.
Employment restrictions concerning women of child-bearing age must be observed.

Water hazard class:

Water hazard class 2 (Self-assessment): hazardous for water.

Other regulations, limitations and prohibitive regulations ELINCS (European List of Notified Chemical Substances)

Substance is not listed.

Substances of very high concern (SVHC) according to REACH, Article 57

Substance is not listed.

REACH - Pre-registered substances

Substance is listed.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet:

Health, Safety and Environmental Department.

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent