
Product name	Propionic anhydride		EU/EN
MSDS number	80511	Revision Date	Jul.24.2009***
Revision Number	2***.01	Issuing date	Jul.24.2009***

1. Identification of the substance/preparation and the company/undertaking

Product name

Propionic anhydride

Manufacturer, importer, supplier

Celanese Chemicals Europe GmbH
Frankfurter Straße 111
D-61476 Kronberg/Ts.

Product Information

PS.Chemicals.EU@celanese.com

Emergency telephone number

+49 (0)69-305 6418

End use:

Chemical intermediate (including monomers)***

2. Hazards identification

Indication of danger Corrosive

R-phrases)

R34 - Causes burns.

3. Composition/information on ingredients

Components	CAS-No	EC-No.	Classification	Percent %
Propionic anhydride	123-62-6	204-638-2	C;R34	>= 98
Propionic acid	79-09-4	201-176-3	C;R34	<=2

4. First aid measures

General Information

Remove contaminated, soaked clothing immediately and dispose of safely. Pay attention to own protection. In any case show the physician the Safety Data Sheet***

Inhalation

Keep at rest. Move to fresh air. Call a physician immediately.

Skin

Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

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Eyes Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Ingestion If conscious, drink plenty of water. If swallowed, do not induce vomiting - seek medical advice***

Notes to physician

Main symptoms Vapours may cause irritation to the eyes, respiratory system and the skin.

Special hazard respiratory disorder.

Treatment Treat symptomatically. In case of lung irritation first treatment with dexametason aerosol (spray). In case of choking: gastroscopy inclusive of aspiration and acidosis compensation..

5. Fire-fighting measures

Suitable extinguishing media

foam. Dry chemical. carbon dioxide (CO₂). water spray.

Extinguishing media which must not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire***

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases

Under conditions giving incomplete combustion, hazardous gases produced may consist of carbon monoxide

carbon dioxide (CO₂)

Combustion gases of organic materials must in principle be graded as inhalation poisons

Special protective equipment for fire-fighters

self-contained breathing apparatus (EN 133)***

Environmental precautions

Water runoff can cause environmental damage. Dike and collect water used to fight fire.

Other Information

Cool containers / tanks with water spray.

6. Accidental release measures

Personal precautions

Avoid contact with the skin and the eyes. Keep away from heat and sources of ignition. Provide adequate ventilation.

Environmental precautions

Prevent further leakage or spillage. Do not discharge into the drains/surface waters/groundwater. Dike and collect water used to fight fire***

Methods for cleaning Up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Dispose of in accordance with local regulations.

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7. Handling and storage

Handling

Advice on safe handling

Provide sufficient air exchange and/or exhaust in work rooms.

Protection - fire and explosion:

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge. Ground and bond containers when transferring material. In case of fire, emergency cooling with water spray should be available.

Temperature class

T3

Storage

Technical measures/Storage conditions

Keep tightly closed in a dry, cool and well-ventilated place. Never allow product to get in contact with water during storage..

Incompatible products

Keep away from:., bases, amines, alcohols, water

German storage class

8A: flammable corrosive substances.

8. Exposure controls / personal protection

Components	EU TWA	
Propionic acid	31 mg/m ³ ***	10 PPM***

Components	EU STEL	
Propionic acid	62 mg/m ³ ***	20 PPM***

Components	TRGS 900 (AGW)		STEL Factor
Propionic acid	31 mg/m ³ ***	10 PPM***	2***

ACGIH Exposure Limits

Components	TWA
Propionic acid	10 PPM***

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Engineering measures General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Personal protective equipment

General advice Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Use only in an area equipped with a safety shower. Hold eye wash fountain available***

Hygiene measures When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Respiratory protection In appearance of aerosol or vapor protection required (gas filter A) .

Eye protection Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face. Equipment should conform to EN 166.

skin protection impervious clothing

Hand protection Chemicals resistant gloves
Suitable material butyl-rubber
Type Butoject (Company KCL) or comparable article;
or refer to glove manufacturer's recommendation
Evaluation according to EN 374: level 6
Material thickness approx 0.3 mm
Break through time 480 min

Suitable material butyl-rubber
Type Butoject (Company KCL) or comparable article;
or refer to glove manufacturer's recommendation
Evaluation according to EN 374: level 6
Material thickness approx 0.7 mm
Break through time 480 min

9. Physical and chemical properties

Appearance

Form	liquid
Colour	colourless
Odor	pungent

Flash point	63°C***
Method	closed cup
Ignition temperature	285°C***
Lower explosion limit	1.5 Vol. %
Upper explosion limit	11.9 Vol. %

Melting point/range	-45°C***
Boiling point/range	167°C*** @ 1013 hPa***

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Density	1.02 g/ml @ 20°C***
Viscosity	1.144 mPa*s @ 20°C***
vapor pressure	1 hPa @ 20°C*** 9 hPa @ 50°C***
vapor density	4.5 (Air=1)***
Water solubility	hydrolyses
Partition coefficient (n-octanol/water)	0.40 (calculated)***

10. Stability and reactivity

Stability	Stable under normal conditions of handling, use and transportation.
Conditions to avoid	Avoid any source of ignition.. Avoid contact with heat, sparks, open flame, and static discharge..
Materials to avoid	Keep away from:., amines, bases, alcohols
Thermal decomposition	No decomposition if used as directed. If heated to thermal decomposition the following decomposition products may occur depending on the conditions. carbon oxides.
Hazardous reactions	Reacts violently with water.

11. Toxicological information

Propionic anhydride

Oral	LD50: 3050 - 5930 mg/kg, rat
Dermal	LD50: 490 mg/kg, rabbit
Skin irritation	corrosive
Species	rabbit
Eye Irritation	corrosive
Species	rabbit eye
in vitro Mutagenicity	Ames test - negative with and without metabolic activation CHO cell sister-chromatid-exchange (SCE) - negative with and without metabolic activation CHO cell gene-mutation - negative with and without metabolic activation***
in vivo Mutagenicity	Mouse micronucleus - negative IP administration male and female

The indicated toxicological data refer to propionic acid.

12. Ecological information

Propionic anhydride	
Toxicity to fish	LC0: 85.3 mg/l (96h)

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Propionic anhydride

Species	Lepomis macrochirus (Bluegill sunfish)
	LC50: 51 mg/l (96h)
Species	Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia	EC50: 22.7 mg/l (48h)
Species	Daphnia magna
Toxicity to algae	EC50: 46 mg/l (72h)
Species	Scenedesmus subspicatus
Toxicity to bacteria	EC50: 60 mg/l (17h)
Species	Pseudomonas putida
Biodegradation	degradable (14 d)
Method	OECD 301 C

The indicated ecological data refer to Propionic acid.

13. Disposal considerations

Product information	Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal..
Uncleaned empty packaging	Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse..

14. Transport information

ADR/RID

UN/ID No.	UN 2496
Proper Shipping Name	Propionic anhydride
Hazard Class	8
Packing group	III
Tunnel Restriction Code	(E)
Hazard Number	80

ADNR

	ADNR: Container and Tanker***
UN/ID No.	UN 2496
Proper Shipping Name	Propionic anhydride
Hazard Class	8
Packing group	III

ICAO/IATA

UN-No.	UN 2496
Proper Shipping Name	Propionic anhydride
Hazard Class	8
Packing group	III

IMDG

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14. Transport information

UN/ID No.	UN 2496
Proper Shipping Name	Propionic anhydride
Hazard Class	8
Packing group	III
EmS Code	F-A, S-B

15. Regulatory information

Labelling in accordance with EC directives

EC label

Symbol(s) C - Corrosive.

R-phrase(s) R34 - Causes burns.

S-phrase(s) S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

Water Hazard Class (WGK):

WGK Class 1
WGK Reg-Nr. 1235
WGK Source Classification according to VwVwS, Annex 1 or 2

16. Other information

R-phrase(s)

Propionic anhydride

R34 - Causes burns

Propionic acid

R34 - Causes burns

For further information, see:

For more information, other material safety data sheets or technical data sheets please consult the Celanese homepage (www.celanese.com).

Other Information:

- Observe national and local legal requirements***

Changes against the previous version are marked by ***

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Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on Celanese owned data and public sources deemed valid or acceptable. The absence of data elements required by ANSI or 1907/2006 indicates, that no data meeting these requirements is available.

Further information

This information is based on our present state of knowledge. It shall describe our products regarding safety requirements and shall not be construed as a guarantee or statement of condition and/or quality.