

Product name	Paraformaldehyde prills		EU/EN
MSDS number	80520	Revision Date	Feb.04.2009
Revision Number	1.02	Issuing date	Jul.02.2009***

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

Product name

Paraformaldehyde Prills, 91 - 97 % ***

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 Harmful

R-phrases(s)

R38 - Irritating to skin.
R41 - Risk of serious damage to eyes.
R43 - May cause sensitization by skin contact.
R20/22 - Harmful by inhalation and if swallowed.

3. Composition/information on ingredients

Chemical characterization Paraformaldehyde, Polymerized Formaldehyde
Decomposition of Paraformaldehyde releases to Formaldehyde.

Components	CAS-No	EC-No.	Classification	Percent %
Paraformaldehyde	30525-89-4	200-001-8	XN;R20/22 Xi;R38-41	91-97
Formaldehyde	50-00-0	200-001-8	C;R34 Carc. Cat.3;R40 R43 T;R23/24/25	off-gas

4. First aid measures

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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.
Eyes	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately***
Ingestion	Rinse with plenty of water. If conscious, drink plenty of water. Do NOT induce vomiting.. Call a physician immediately***
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).

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

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.

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Environmental precautions

Prevent further leakage or spillage. Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning Up

Soak up with inert absorbent material. Do not use rags, paper towels or combustible materials to clean up a spill, because spontaneous combustion can occur. Keep in suitable, closed containers for disposal. Dispose of in accordance with local regulations.

7. Handling and storage

Handling

Advice on safe handling

Use adequate ventilation. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not breathe vapours/dust. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling.. Decontaminate soiled clothing thoroughly before re-use. . Destroy contaminated leather clothing.. Refill and handle product only in closed system. Provide sufficient air exchange and/or exhaust in work rooms***

Protection - fire and explosion:

Keep away from sources of ignition - No smoking. Vapours are heavier than air and may spread along floors. 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. Handle and open container with care. Store under nitrogen.

Incompatible products

Keep away from:., acids, bases, amines, oxygen, oxidizing agents, reducing agents

German storage class

4.1 B Flammable solids.

8. Exposure controls / personal protection

National occupational exposure limits (Germany)

The OEL (occupational exposure limit) of Formaldehyde (the German TRGS 900: 0,62mg/m³, 0,5ml/m³) is cancelled with the amendment of the TRGS 900 in January 2006. This figures are only for information. The development of a new OEL is in process.

Formaldehyde

Skin designation

Components of the product may be absorbed into the body through the skin

ACGIH Exposure Limits

Components	Ceiling Limit Value:
Formaldehyde	0.3 PPM***

Safety data sheet
according to regulation (EG) Nr. 1907/2006



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Components	Celanese Workplace Exposure Limit
Formaldehyde	0.75 ppm (TWA); 2 ppm (STEL)

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 Filter ABEK/P3. Full mask with above mentioned filter according to producers using requirements or self-contained breathing apparatus.

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 according to EN 374: level 6
Evaluation according to EN 374: level 6
Material thickness approx 0.3 mm
Break through time approx 480 min

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

9. Physical and chemical properties

Appearance

Form solid prills
Colour white
Odor pungent

Flash point 70°C
Method closed cup

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Ignition temperature	300°C
Lower explosion limit	7 Vol. %
Upper explosion limit	73 Vol. %
Melting point/range	120 - 170°C
Density	1.46 g/ml @ 15°C
pH	6.7 - 6.9; 1% @ 25°C
vapor pressure	1.9 hPa @ 25°C
vapor density	1.03 (Air=1)
Water solubility	hydrolyses

10. Stability and reactivity

Stability	Stable if protected from heat and exposure to air.
Conditions to avoid	Avoid any source of ignition.. Avoid contact with heat, sparks, open flame, and static discharge..
Materials to avoid	Keep away from:., oxygen, oxidizing agents, reducing agents, acids, bases
Hazardous reactions	May form explosive peroxides. Polymerization can occur. Polymerization is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers.
Hazardous decomposition products	formaldehyde

11. Toxicological information

Paraformaldehyde

Oral	LD50: 680*** mg/kg, rat***
Dermal	LD50: > 2000 mg/kg, rabbit
Inhalation	LC50: 1070 mg/m ³ , rat, 4h
Skin irritation	Severe skin irritation
Species	rabbit
Eye Irritation	Severe eye irritation
Species	rabbit eye
in vitro Mutagenicity	CHO cell chromosome aberration - negative with and without metabolic activation CHO cell sister-chromatid-exchange (SCE) - positive with and without metabolic activation Mouse lymphoma cell gene-mutation - positive with and without metabolic activation***

Formaldehyde

Oral	LD50: 600-800*** mg/kg, rat***
Dermal	LD50: 270*** mg/kg, rabbit***
Inhalation	LC50: 578*** mg/m ³ , rat, 4h***
Skin Sensitization	- positive ***

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11. Toxicological information

Method	mouse LLNA***
Eye Irritation	irritant***
Species	rabbit eye***
in vitro Mutagenicity	- positive ***
in vivo Mutagenicity	Formaldehyde is a direct acting locally effective mutagen, with genotoxic effects limited to those cells in direct contact with formaldehyde. (OECD SIDS)***
Reproductive toxicity	No toxicity to reproduction***
Developmental effects	no adverse developmental effects***
Routes of exposure	oral gavage***
Species	mouse***
Developmental effects	no adverse developmental effects***
Routes of exposure	Inhalation***
Species	rat***

12. Ecological information

Paraformaldehyde	
Toxicity to fish	LC50: 60 mg/l (96h)
Species	Oncorhynchus mykiss (rainbow trout)

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 2213
Proper Shipping Name	Paraformaldehyde
Hazard Class	4.1
Packing group	III
Tunnel Restriction Code	(E)***
Hazard Number	40

ADNR

ADNR Container	ADNR Container
UN/ID No.	UN 2213
Proper Shipping Name	Paraformaldehyde
Hazard Class	4.1
Packing group	III

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14. Transport information

ADNR Tanker forbidden

ICAO/IATA

UN-No.	UN 2213
Proper Shipping Name	Paraformaldehyde
Hazard Class	4.1
Packing group	III

IMDG

UN/ID No.	UN 2213
Proper Shipping Name	Paraformaldehyde
Hazard Class	4.1
Packing group	III
EmS Code	F-A, S-G

15. Regulatory information

Labelling in accordance with EC directives

The product is classified and labelled in accordance with EC Directive 67/548/EC.

Contains Formaldehyde

Symbol(s) Xn - Harmful.

R-phrase(s)

R38 - Irritating to skin.
R41 - Risk of serious damage to eyes.
R43 - May cause sensitization by skin contact.
R20/22 - Harmful by inhalation and if swallowed.

S-phrase(s)

S24 - Avoid contact with the skin.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39 - Wear suitable gloves and eye/face protection.

Water Hazard Class (WGK):

WGK Class	2
WGK Reg-Nr.	1422
WGK Source	Classification according to VwVwS, Annex 1 or 2

16. Other information

R-phrase(s)

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Paraformaldehyde

R38 - Irritating to skin
R41 - Risk of serious damage to eyes
R20/22 - Harmful by inhalation and if swallowed

Formaldehyde

R34 - Causes burns
R40 - Limited evidence of a carcinogenic effect
R43 - May cause sensitization by skin contact
R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed

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 ***

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.