

Paraformaldehyde 91-93%

Version	Revision Date:	SDS Number:	Date of last issue: 10.09.2019
1.1	11.09.2019	000000033679	Date of first issue: 10.09.2019

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Paraformaldehyde 91-93%

Product code : 000000000050000767

Manufacturer or supplier's details

Company : Celanese Pte Ltd

Address : 60 Anson Road, Maple Tree Anson #13-02
Singapore SG 079914

Telephone :

Emergency telephone number : CHEMTREC: +1 703 527 3887

Recommended use of the chemical and restrictions on use

Recommended use : Chemical intermediate

2. HAZARDS IDENTIFICATION**GHS Classification**

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Acute toxicity (Dermal) : Category 5

Skin corrosion : Category 1C

Serious eye damage : Category 1

Skin sensitisation : Category 1

Carcinogenicity : Category 1B

Germ cell mutagenicity : Category 2

Specific target organ toxicity - : Category 1 (Lungs)
single exposureSpecific target organ toxicity - : Category 3 (Respiratory system)
single exposure

Acute aquatic toxicity : Category 3

Chronic aquatic toxicity : Category 3

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Celanese Paraformaldehyde 91-93% have been tested in accordance with U.N. Test N1 and determined not to be a flammable solid.

GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: H302 Harmful if swallowed.
 H313 May be harmful in contact with skin.
 H332 Harmful if inhaled.
 H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.
 H317 May cause an allergic skin reaction.
 H350 May cause cancer.
 H341 Suspected of causing genetic defects.
 H370 Causes damage to organs.
 H335 May cause respiratory irritation.
 H402 Harmful to aquatic life.
 H412 Harmful to aquatic life with long lasting effects.
 May form combustible dust concentrations in air.

Precautionary statements

: **Prevention:**

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust or mist.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P270 Do not eat, drink or smoke when using this product.
 P264 Wash skin thoroughly after handling.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P273 Avoid release to the environment.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P303 + P361 + P353 IF ON SKIN (or hair): 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.
 P310 Immediately call a POISON CENTER or doctor/ physician.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P363 Wash contaminated clothing before reuse.

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P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:

P405 Store locked up.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Hazardous components**

Chemical name	CAS-No.	Concentration (% w/w)
Paraformaldehyde	30525-89-4	$\geq 91 - \leq 93$
formaldehyde	50-00-0	$\geq \leq 0.1$

4. FIRST AID MEASURES

- General advice : Do not leave the victim unattended.
- If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : If on skin, rinse well with water.
If symptoms persist, call a physician.
- In case of eye contact : Remove contact lenses.
Protect unharmed eye.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : None known.
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5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water
Foam
Dry chemical
Carbon dioxide (CO₂)
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- Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.
Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
- Hazardous combustion products : Carbon oxides
Formaldehyde
- Specific extinguishing methods : Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
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6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Avoid contact with the skin and the eyes.
Avoid dust formation.
Avoid breathing dust.
Ensure adequate ventilation.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
Do not let product enter drains.
- Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust.
Sweep up and shovel.
Do not create a powder cloud by using a brush or compressed air.
Non-sparking tools should be used.
Keep in suitable, closed containers for disposal.
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7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed. During processing, dust may form explosive mixture in air. Take measures to prevent the build up of electrostatic charge. Do not empty bag over drums with ignitable gas mixtures. Use explosion-proof equipment.
- Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Minimize dust generation and accumulation.
Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations.
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Ensure all equipment is electrically grounded before beginning
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transfer operations.

Paraformaldehyde decomposes to formaldehyde which can build up in a shipping container depending on time and temperature during transit. The level of formaldehyde exposure may be instantaneously high when the shipping container is opened.

Provide adequate ventilation.

Conditions for safe storage : Keep container closed when not in use.
Keep in a dry, cool and well-ventilated place.
Store locked up.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Acids
Bases
Amines
Oxidizing agents
Reducing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

Formaldehyde is slowly emitted from Paraformaldehyde. The release rate and air concentration are dependent on storage conditions including temperature and ventilation. This exposure limit information on formaldehyde is provided for your reference.

Engineering measures : Use with local exhaust ventilation.
Use explosion-proof equipment.

Personal protective equipment

Hand protection

Material : butyl-rubber
Break through time : 480 min
Glove length : 0.3 mm
Manufacturer : Class 6

Eye protection : Safety goggles

Skin and body protection : Protective suit

Hygiene measures : General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : solid prills
Colour : white
Odour : pungent
Odour Threshold : 1 ppm

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pH	:	4 - 5
Melting point/range	:	120 - 170 °C
Flash point	:	Not applicable
Bulk density	:	890 kg/m ³
Solubility(ies)	:	
Water solubility	:	hydrolyses
Dust deflagration index (Kst)	:	< 200 m.b./s

10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	Keep away from fire, sparks and heated surfaces. Take measures to prevent the build up of electrostatic charge.
Incompatible materials	:	Acids Bases Amines Oxidizing agents Reducing agents
Hazardous decomposition products	:	Formaldehyde

11. TOXICOLOGICAL INFORMATION**Acute toxicity****Components:****Paraformaldehyde:**

Acute oral toxicity	:	LD50 (Rat): 680 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 1.07 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg

formaldehyde:

Acute oral toxicity	:	LD50 (Rat, male): 460 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): 1 mg/l Exposure time: 0.5 h Method: OECD Test Guideline 403

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Acute dermal toxicity : 270 mg/kg

Skin corrosion/irritation**Components:****Paraformaldehyde:**

Species: Rabbit
Result: Severe skin irritation

formaldehyde:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive

Serious eye damage/eye irritation**Components:****Paraformaldehyde:**

Species: Rabbit
Result: Severe eye irritation

formaldehyde:

Species: Rabbit
Result: Corrosive
Method: OECD Test Guideline 405

Respiratory or skin sensitisation**Components:****formaldehyde:**

Species: Mouse
Method: OECD Test Guideline 429
Result: May cause sensitisation by skin contact.

Germ cell mutagenicity**Components:****Paraformaldehyde:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Species: Chinese hamster cells
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 473
Result: negative

: Test Type: sister chromatid exchange assay
Species: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 479

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Result: positive

: Test Type: gene mutation test
Species: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive

formaldehyde:

Genotoxicity in vivo : Species: Rat
Method: Mutagenicity (micronucleus test)
Result: negative

Reproductive toxicity**Components:****formaldehyde:**

Effects on foetal development : Species: Mouse
Application Route: Oral
Result: no adverse developmental effects

12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Paraformaldehyde:**

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

formaldehyde:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 6.7 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 5,800 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : (Desmodesmus subspicatus (green algae)): Exposure time:
Method: OECD Test Guideline 201

EC50 (Scenedesmus quadricauda (Green algae)): 4.89 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Persistence and degradability**Components:****formaldehyde:**

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Biodegradability : Inoculum: Fresh water
Result: Readily biodegradable.
Method: OECD Test Guideline 301C

Bioaccumulative potential**Components:****formaldehyde:**

Bioaccumulation : Bioconcentration factor (BCF): 0.4
Remarks: Does not significantly accumulate in organisms.

Mobility in soil

No data available

Other adverse effects**Product:**

Additional ecological information : No data available

Components:**formaldehyde:**

Results of PBT and vPvB assessment : The substance does not meet the criteria for PBT / vPvB according to REACH, Annex XIII

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

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15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.

Fire Safety (Petroleum and Flammable Materials) Regulations : Not applicable

Environmental Protection and Management Act and (Hazardous Substances) Regulations : Not applicable

16. OTHER INFORMATION**Full text of other abbreviations**

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Date format : dd.mm.yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a

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guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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