



THE DOVECHEM GROUP

Paraformaldehyde

Revision : 08

Effective Date : February 9, 2021

Safety Data Sheet

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name : Paraformaldehyde 92%
Use : Chemical intermediate, resin manufacture, disinfectant.
Not for use in food.
Manufacturer : **PT. Dover Chemical**
Manufacturer address : Jl. Raya Merak km 117 Kelurahan Gerem Kecamatan Grogol
Kodya Cilegon 42438 Banten - Indonesia
Contact number : +62 0254 571 064 Ext: 1243
Email : sales.pfa@dovechem.co.id
Website : www.dovechem.co.id
Dept. responsible for information : Edi Priyanto
+62 856 9293 0248
edi.priyanto@dovechem.co.id

II. HAZARDS IDENTIFICATION

GHS Classification : **Hazards** **Category**
Acute oral toxicity Category 4
Acute dermal toxicity Category 5
Acute inhalation toxicity Category 4
Skin corrosion/irritation Category 1C
Serious eye damage/eye irritation Category 1
Skin sensitization Category 1
Acute aquatic toxicity Category 3
Flammable Solids Category 5
Carcinogenicity Category 2

Label elements : **Symbols**



Hazard statements : **Signal word** Danger
H228 - Flammable Solids
H302 - Harmful if swallowed
H313 - May be harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H332 - Harmful if inhaled
H351 - Suspected of causing cancer
H402 - Harmful to aquatic life
Precautionary statements : P210 - Keep away from heat



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P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting/equipment
P261 - Avoid breathing dust
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P310 - **If swallowed:** Immediately call a poison center or doctor/physician
P303 + P361 + P353 - **If on skin:** 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.
P403+P233 - Store in a well ventilated place. Keep container tightly closed.
P235 - Keep cool
P501 - Dispose of contents and container to appropriate waste site or reclaimed in accordance with local and national regulations.

III. COMPOSITION / INFORMATION ON INGREDIENTS

Material identification : Paraformaldehyde, Paraform
Decomposition of Paraformaldehyde releases Formaldehyde

Components :

Component	wt %	CAS No.	REACH Registration Number	K-REACH Registration Number
Paraformaldehyde	91 - 93	30525-89-4	Not applicable (Polymer)	04-1809-02418
Formaldehyde	< 1.0	50-00-0	01-2119488953-20-0252	-
Methanol	< 0.5	67-56-1	-	-
Water	7 - 9	7732-18-5	-	-
Formic Acid	0.002	64-18-6	-	-
Iron (Fe)	0.0002	7439-89-6	-	-

IV. FIRST AID MEASURES

General advice : Consult a physician. Show this Safety Data Sheet to the physician.
Inhalation : Move to fresh air. If breathing is difficult, give oxygen.
Skin contact : Wash immediately with plenty of water. Remove any contaminated clothing and launder before reuse. If irritation persists or develops, seek medical attention.
Eyes contact : Flush immediately with plenty of water for at least 15 minutes, keeping eyelids open and avoid contamination of unaffected eye. Seek medical attention.
Ingestion : Do not induce vomiting. Rinse mouth out with water, but do not give anything to drink. Seek medical attention.

V. FIRE FIGHTING MEASURES

Flash point : 70 °C (closed cup)
Autoignition temperature : 300 °C



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Explosive limits	:	7.0 - 73.0 %v/v
Extinguishing media	:	Foam, carbon dioxide or dry chemical.
Fire fighting procedures	:	Evacuate area. Use water spray to cool container that fire has spread to and the location effected by fire until fire is completely extinguished and no chance of fire lighting up again. Extinguish fire from a location that is protected or from a safe distance. Immediately remove all personnel from area if siren is heard.
Special protective equipment for fire fighter	:	Positive pressure self-contained breathing apparatus (SCBA) and full protective clothing.
Unusual fire hazard	:	Will burn if involved in a fire and give off noxious fumes (formaldehyde and carbon oxides). Vapor is heavier than air and is an explosion hazard.

VI. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Avoid contact with skin and the eyes. Keep away from heat and sources of ignition. Provide adequate ventilation.
Environmental precautions	:	Prevent further leakage or spillage. Prevent entry into waterways, sewers, basements or confined areas.
Cleaning method	:	Contain any spilled material immediately by shovelling or sweeping, taking care not to raise dust.

VII. HANDLING AND STORAGE

Handling	:	Use adequate ventilation. Keep 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. Remove any contaminated clothing and launder before reuse. Refill and handle product only in a closed system. Provide sufficient air exchange and/or exhaust in work rooms. 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.
Storage	:	Store in locked up. Symbols representing toxic, corrosive and carcinogenic hazards displayed at location of storage minimal with measurements 25 cm X 25 cm. Location of storage should only be accesible to authorised personnel. Separate storage area from work place.

VIII. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure standards	:	Its offgas formaldehyde gas can be easily detected from smell of its odour with degree of 0.07 - 1.2 ppm in air. Indonesian Ministry of Labor established TLV, Ceiling limit at 0.3ppm and 3.37mg/m ³ in air. OSHA established PEL for formaldehyde below 0.75ppm concentration TWA for 8 hours-day, STEL at 2ppm and Action Level at 0.5ppm. ACGIH established 0.1 ppm for 8-hour time-weighted average TLV and 0.3 ppm for Short Term Exposure Limit.
Engineering control	:	Use local or general ventilation to keep concentration in air which follows with the score limit threshold established. Immediately fix any leakages when detected.



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Respiratory protection	:	Respiratory protection is needed if concentration of gas in air exceeds exposure standards. At each concentration that is detected, use respiratory equipment with face protection that is operated with positive mode.
Skin and body protection	:	Protective clothing such as clothes, laboratory coat and gloves should be worn. Emergency shower should be provided near working area.
Eye protection	:	Avoid eye contact by wearing chemical safety goggles and/or full face protection to prevent contact with eyes. Safety shower with eyewash should be provided near work area.

For the full text of the abbreviations mentioned in this section, see section XVI.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical properties	:	Solid
Appearance	:	Free flowing prill
Odour	:	Strong and pungent odour
pH (10% aqueous solution)	:	4 - 7
Flash point	:	70 °C (closed cup)
Vapour pressure	:	23 - 26 mmHg at 25 ° C
Vapour density (relative to air)	:	1.03
Bulk density	:	650 - 850 kg/m ³
Mean particle size	:	approx. 250-350 µm
Solubility in water	:	Hydrolyses
Solubility in solvents	:	Insoluble in ethanol, diethyl ether, low in fatty type solvents
Autoignition temperature	:	300 ° C
Melting point	:	120 - 175 ° C
Decomposition temperature	:	Depolymerizes at melting point to Formaldehyde gas

X. STABILITY AND REACTIVITY

Stability	:	Stable under normal condition.
Condition to avoid	:	Avoid any source of ignition. Avoid contact with heat, sparks, open flame and static discharge.
Incompatible materials	:	Strong oxidative material, caustic, strong alkaline, isocyanate, anhydrate, oxygen and inorganic acid. Vapor reacts with hypochlorite acid, forming carcinogenic compound, bis-chloromethyl ether. Vapor reacts with nitrogen dioxide, nitromethane, perchlorite acid and aniline or peroxyformic acid, resulting compound that can explode easily.

XI. TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity	:	LD ₅₀ rat : 460 mg / kg
Acute inhalation toxicity	:	LD ₅₀ rat : 1000 mg/m ³ / 4 hours
Acute dermal toxicity	:	LD ₅₀ rabbit: >2000 mg/kg

Effect on humans

Ingestion	:	Harmful if swallowed. Symptoms of exposure may include: Nausea, vomiting, loss of appetite, gastrointestinal irritation and/or diarrhea.
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Eye	:	Exposure to vapors and liquid causes eye irritation. Symptoms of exposure may include: Eye irritation, burning sensation, pain, watering, and/or change of vision. Eye injury which may persist for several days.
Skin	:	Causes skin irritation. May cause allergic skin reaction. Symptoms of overexposure include: Redness or discoloration, swelling, itching, burning or blistering of skin. Drying, cracking or inflammation of skin. Hardening (tanning) of skin.
Inhalation	:	Harmful if inhaled. Causes respiratory tract irritation. May cause allergic respiratory reaction. Symptoms of exposure may include: Nasal discharge, hoarseness, coughing, chest pain and breathing difficulty. Accumulation of fluid in the lungs (pulmonary edema); symptoms can be delayed for several hours.
Chronic effect on humans		
Carcinogenicity	:	Formaldehyde, which is a degradation product, is listed as a potential cancer hazard by OSHA, a known human carcinogen by the IARC (Group 1).
Mutagenicity	:	Material causing mutagen to mammals cell somatic, bacteria and/or fungus. [Formaldehyde]

For the full text of the abbreviations mentioned in this section, see section XVI.

XII. ECOLOGICAL INFORMATION

Persistence and degradability	:	When released into soil, this material is expected to leach into groundwater. When released into water, this material is expected to readily biodegrade. When released into water, this material is not expected to evaporate significantly. This material is not expected to significantly bioaccumulate. When released into air, its offgas formaldehyde is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into air, its offgas formaldehyde is expected to be readily degraded by photolysis. When released into air, its offgas formaldehyde is expected to be readily removed from the atmosphere by dry and wet deposition. When released into air, its offgas formaldehyde is expected to have a half-life of less than 1 day.
Ecotoxicity	:	LC ₅₀ <i>Oncorhynchus mykiss</i> : 60 mg/L/96hour (rainbow trout)
Mobility	:	No information available
Bioaccumulation	:	This material does not bioaccumulate significantly.

For the full text of the abbreviations mentioned in this section, see section XVI.

XIII. DISPOSAL CONSIDERATIONS

Indonesia,	Substance :	This material must be contained and not disposed to sewerage systems, drains or waterways. It is prohibited to dispose its waste to the environment, without prior treatment in accordance with Indonesian government regulation <i>Peraturan Pemerintah Nomor 18 Tahun 1999 tentang Pengelolaan Limbah Bahan Berbahaya dan Beracun.</i>
	Container :	Waste containers can either be reused for the same material or disposed in accordance with Indonesia government regulation <i>Peraturan Pemerintah Nomor 18 Tahun 1999 tentang Pengelolaan Limbah Bahan Berbahaya dan Beracun.</i>
Others	:	or follow the local waste and environment authority requirements.



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XIV. TRANSPORTATION INFORMATION

Road and rail transport	:	Symbols representing toxic, corrosive and carcinogenic hazards displayed on carrier vehicles minimal with measurements 25 cm X 25 cm or follow the regulation set out by the country.			
Marine transport (IMDG)	:	UN Number	: 2213	Proper Shipping Name	: Paraformaldehyde
	:	Packing Group	: III	Class	: 4.1
	:	Marine pollutant	: No	EmS Code	: F-A, S-G
Air transport (IATA)	:	UN Number	: 2213	Proper Shipping Name	: Paraformaldehyde
	:	Packing Group	: III	Class	: 4.1
	:	Environmentally hazardous : No			

XV. REGULATORY INFORMATION

Indonesia	:	<i>Peraturan Pemerintah Republik Indonesia Nomor 74 Tahun 2001 tentang Pengelolaan Bahan Berbahaya dan Beracun. Peraturan Menteri Perdagangan Republik Indonesia Nomor 04 Tahun 2006 tentang Distribusi dan Pengawasan Bahan Berbahaya. Peraturan Menteri Perindustrian Republik Indonesia Nomor 24 Tahun 2006 tentang Pengawasan Produksi dan Penggunaan Bahan Berbahaya untuk Industri. Peraturan Menteri Negara Lingkungan Hidup Nomor 03 Tahun 2008 tentang Tata Cara Pemberian Simbol dan Label Bahan Berbahaya dan Beracun. PP No. 101 Tahun 2014 tentang Pengelolaan Limbah Bahan Berbahaya Dan Beracun. Peraturan Menteri Kesehatan Republik Indonesia Nomor 722 Tahun 1988 tentang Bahan Tambahan Makanan. Permenaker no.05/2018 tentang Keselamatan dan Kesehatan Kerja Lingkungan Kerja</i>
International Inventories	:	Listed on the chemical inventories of the following countries or qualifies for an exemption: TSCA- USA DSL/NDSL- Canada IECSC- China ENCS/MITI- Japan PICCS- Philippines AICS-Australia NZIoC- New Zealand EINECS- European Union INSQ-Mexico KECL-Korea
USA	:	American Conference of Industrial Hygienist (ACGIH) publication year 2017. Listing and limitations under Food and Drug Administration (FDA) compliance: [Paraformaldehyde] Section 21 CFR 175.105 (Adhesives) – Listed.



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Section 21 CFR 176.170 (Components of paper and paperboard in contact with aqueous and fatty foods) – Listed. Limitation : For use only as setting agent for protein.

Section 21 CFR 177.1210 (Closures with sealing gaskets for food containers) – Listed. Limitation : 1 percent

Listed under California Proposition 65. [Formaldehyde]

Listed under CERCLA Hazardous Substances per 40 CFR Part 302. [Paraformaldehyde]

Listed under Federal Water Pollution Control Act section 311(b)(2)(A). [Paraformaldehyde]

Occupational Safety & Health Administration (OSHA) Regulations, Standard number 1910.1048.

Others

or follow the regulation set out by the country.

XVI. OTHER INFORMATION

Labelling requirement	:	Danger
Symbol requirement	:	Symbols representing toxic, carcinogenic and corrosive hazards.
Abbreviation	:	CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
		EC ₅₀ Half Maximum Effective Concentration
		IARC International Agency for Research on Cancer
		IATA International Air Transport Association
		IMDG International Maritime Dangerous Goods
		K-REACH Korean Registration, Evaluation, Authorisation and Restriction of Chemicals
		LC ₅₀ Lethal Concentration and Time
		LD ₅₀ Median Lethal Dose
		NIOSH National Institute for Occupational Safety and Health
		PEL Permissible Exposure Limit
		REACH Registration, Evaluation, Authorisation and Restriction of Chemicals
		STEL Short Term Exposure Limit
		TLV Threshold Limit Value
		TWA Time Weighted Averages
Symbol	:	∞ Infinite

Disclaimer

The information contained in this Safety Data Sheet is intended to assist in the use of the above product without risk to safety or health and is based on current knowledge and experience. This information relates only to the specific material designed and may not be valid for such material used in combination with any other materials or in any process. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.