

1. Identification

Product identifier	PARAFORMALDEHYDE, 95%, PRILLS	
Other means of identification		
Product code	2605	
Recommended use	professional, scientific and technical activities: other professional, scientific and technical activities	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Company name	GFS Chemicals, Inc.	
Address	P.O. Box 245 Powell OH 43065 US	
Telephone	Phone	740-881-5501
	Toll Free	800-858-9682
	Fax	740-881-5989
Website	www.gfschemicals.com	
E-mail	service@gfschemicals.com	
Emergency phone number	Emergency Assistance	Chemtrec 800-424-9300

2. Hazard(s) identification

Physical hazards	Flammable solids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 1 (lung)
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
OSHA hazard(s)	Combustible dust	

Label elements



Signal word	Danger
Hazard statement	Flammable solid. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation. Causes damage to organs (lung). Harmful to aquatic life. Harmful to aquatic life with long lasting effects. May form combustible dust concentrations in air.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting equipment. Ground/bond container and receiving equipment. Avoid breathing dust/fume. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/eye protection/face protection. Prevent dust accumulation to minimize explosion hazard.
Response	In case of fire: Use appropriate media for extinction. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal	Dispose of contents/container to an approved incineration plant.
Hazard(s) not otherwise classified (HNOC)	Not classified.
Environmental hazards	Hazardous to the aquatic environment, acute hazard Category 3
	Hazardous to the aquatic environment, long-term hazard Category 3
Supplemental information	
Precautionary statement	
Prevention	Avoid release to the environment.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/information on ingredients

Substances

Hazardous components			
Chemical name	Common name and synonyms	CAS number	%
PARAFORMALDEHYDE		30525-89-4	100

Monomer

Chemical name	CAS number	%
FORMALDEHYDE	50-00-0	

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash off with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
Most important symptoms/effects, acute and delayed	Irritation of eyes and mucous membranes. Discomfort in the chest. Shortness of breath. Coughing. Irritant effects.
Indication of immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water. Flood with water. Apply extinguishing media carefully to avoid creating airborne dust.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Explosion hazard: 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.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.
Fire-fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. Water runoff can cause environmental damage.
Specific methods	In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Use only non-sparking tools. Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Wear appropriate personal protective equipment.

Methods and materials for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop the flow of material, if this is without risk. Collect spillage. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the MSDS.

Environmental precautions

Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground. Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

7. Handling and storage

Precautions for safe handling

Combustible dust clouds may be created where operations produce fine material (dust). Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. All equipment used when handling the product must be grounded. Use explosion-proof equipment. Minimize dust generation and accumulation. Do not taste or swallow. Avoid breathing dust. Avoid contact with skin. Avoid contact with eyes. Use only outdoors or in a well-ventilated area. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Store in cool place. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. 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. Store in a well-ventilated place. Keep container tightly closed. Keep in an area equipped with sprinklers. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Monomer	Type	Value
FORMALDEHYDE (CAS 50-00-0)	STEL	2 ppm
	TWA	0.75 ppm

US. ACGIH Threshold Limit Values

Monomer	Type	Value
FORMALDEHYDE (CAS 50-00-0)	Ceiling	0.3 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Monomer	Type	Value
FORMALDEHYDE (CAS 50-00-0)	Ceiling	0.1 ppm
	TWA	0.016 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Ventilate as needed to control airborne dust. Use explosion-proof ventilation equipment if airborne dust levels are high. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear eye/face protection.

Skin protection	
Hand protection	Wear protective gloves.
Other	Wear suitable protective clothing. Wear protective gloves.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Not available.
General hygiene considerations	When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Granular.
Physical state	Solid.
Form	Solid.
Color	White.
Odor	Pungent. Formaldehyde.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	248 - 338 °F (120 - 170 °C)
Initial boiling point and boiling range	Not available.
Flash point	158.00 °F (70.00 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Flammable solid.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	7 % v/v
Explosive limit - upper (%)	73 % v/v
Vapor pressure	1.9 hPa at 25 °C
Vapor density	1.03
Relative density	Not available.
Solubility(ies)	Hydrolyses
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	572 °F (300 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.46 g/cm ³ estimated
Flammability class	Combustible IIIA estimated
Flash point class	Combustible IIIA
Molecular formula	H(C-H-O) _n H
pH in aqueous solution	6.8 (1% aqueous solution)
Specific gravity	1.46 at 15 °C

10. Stability and reactivity

Reactivity	Incompatible materials.
Chemical stability	Risk of ignition. Stable under recommended storage conditions.
Possibility of hazardous reactions	Highly reactive peroxides may be formed. Hazardous polymerization can occur.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Oxygen. Oxidizing agents. Reducing agents. Acids. Bases.
Hazardous decomposition products	Formaldehyde. Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Harmful if swallowed.
Inhalation	Harmful if inhaled.
Skin contact	Not available.
Eye contact	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Discomfort in the chest. Shortness of breath. Coughing. Irritant effects.

Information on toxicological effects

Acute toxicity Harmful if inhaled. Harmful if swallowed.

Product	Species	Test Results
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PARAFORMALDEHYDE (CAS 30525-89-4)

Acute

Oral

LD50	Rat	800 mg/kg
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Monomer	Species	Test Results
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FORMALDEHYDE (CAS 50-00-0)

Acute

Inhalation

LC50	Mouse	0.414 mg/l, 4 Hours
		0.4 mg/l, 2 Hours
	Rat	0.82 mg/l, 0.5 Hours
		0.48 mg/l, 4 Hours

Oral

LD50	Guinea pig	260 mg/kg
	Mouse	42 mg/kg
	Rat	2020 mg/kg
		800 mg/kg
		100 mg/kg

Other

LD50	Dog	550 mg/kg
	Mouse	300 mg/kg
		16 mg/kg
	Rabbit	270 mg/kg
		240 mg/kg
	Rat	420 mg/kg
		87 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory sensitization Due to lack of data the classification is not possible.

Skin sensitization Due to lack of data the classification is not possible.

Germ cell mutagenicity Due to lack of data the classification is not possible.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

FORMALDEHYDE (CAS 50-00-0)	1 Carcinogenic to humans.
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NTP Report on Carcinogens

FORMALDEHYDE (CAS 50-00-0)

US OSHA Hazard Categories (1)

FORMALDEHYDE (CAS 50-00-0)

Cancer

Reproductive toxicity	Due to lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Respiratory tract irritation. Causes damage to organs (lung).
Specific target organ toxicity - repeated exposure	Due to lack of data the classification is not possible.
Aspiration hazard	Due to lack of data the classification is not possible.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects. Components of this product are hazardous to aquatic life. Accumulation in aquatic organisms is expected.

Product	Species	Test Results
PARAFORMALDEHYDE (CAS 30525-89-4)		
Aquatic		
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)
		60 mg/l, 96 hours
		46 - 78 mg/l, 96 hours
		46 - 78 mg/l, 96 hours
Monomer	Species	Test Results
FORMALDEHYDE (CAS 50-00-0)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia pulex)
		4.3 - 7.8 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)
		8.7 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

FORMALDEHYDE 0.35

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Not available.

Hazardous waste code Not regulated.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN2213
UN proper shipping name	Paraformaldehyde
Transport hazard class(es)	4.1
Subsidiary class(es)	Not available.
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Labels required	4.1
Special provisions	A1, IB8, IP3, T1, TP33

Packaging exceptions 151
Packaging non bulk 213
Packaging bulk 240

IATA

UN number UN2213
UN proper shipping name Paraformaldehyde
Transport hazard class(es) 4.1
Subsidiary class(es) -
Packaging group III
Environmental hazards No
Labels required Not available.
ERG Code 3L
Special precautions for user Not available.

IMDG

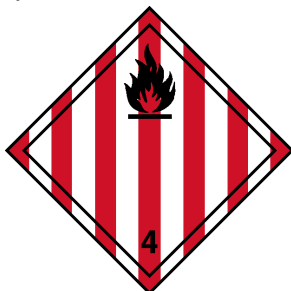
UN number UN2213
UN proper shipping name PARAFORMALDEHYDE
Transport hazard class(es) 4.1
Subsidiary class(es) -
Packaging group III
Environmental hazards
Marine pollutant No
Labels required Not available.
EmS F-A, S-G
Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

FORMALDEHYDE (CAS 50-00-0)	LISTED
PARAFORMALDEHYDE (CAS 30525-89-4)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

FORMALDEHYDE (CAS 50-00-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

FORMALDEHYDE (CAS 50-00-0)

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Hazardous substance

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US. Massachusetts RTK - Substance List

FORMALDEHYDE (CAS 50-00-0)

PARAFORMALDEHYDE (CAS 30525-89-4)

US. New Jersey Worker and Community Right-to-Know Act

FORMALDEHYDE (CAS 50-00-0) 500 LBS

US. Pennsylvania RTK - Hazardous Substances

FORMALDEHYDE (CAS 50-00-0)

PARAFORMALDEHYDE (CAS 30525-89-4)

US. Rhode Island RTK

FORMALDEHYDE (CAS 50-00-0)

PARAFORMALDEHYDE (CAS 30525-89-4)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

FORMALDEHYDE (CAS 50-00-0)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last revision

Issue date August-07-2014

Version # 01

Further information Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. The information given is designed only as a 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.

Revision Information Composition / Information on Ingredients: Additional Components
Physical & Chemical Properties: Multiple Properties
Transport Information: Proper Shipping Name/Packing Group