SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2019
Date Updated: July 15, 2019

SECTION 1. - - - - - - - - - PRODUCT AND COMPANY IDENTIFICATION- - - - - - - - - -

Product Name	Paraformaldehyde
Product Code(s)	PB0684
Recommended Use	For Laboratory Research Use Only Not for Human or Animal Drug Use
Supplier	Bio Basic Inc.
Address	20 Konrad Crescent, Markham, Ontario, Canada, L3R 8T4
Telephone	(905) 474 4493
Fax	(905) 474 5794
For Chemical Emergency Phone#	(416) 995 9730

SECTION 2. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -

Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical Hazards

Flammable solids Category 2

Health Hazards

Acute oral toxicity Category 4
Acute Inhalation Toxicity - Dusts and Mists Category 4
Skin Corrosion/irritation Category 2
Serious Eye Damage/Eye Irritation Category 1
Skin Sensitization Category 1
Carcinogenicity Category 2
Specific target organ toxicity - (single exposure) Category 3
Environmental Hazards
Based on available data, the classification criteria are not met

GHS Label Elements

Pictograms:

Signal word: Danger

Hazard and precautionary statements

Hazard Statements

H228 - Flammable solid
H302 - Harmful if swallowed
H315 - Causes skin irritation
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H317 - May cause an allergic skin reaction
H332 - Harmful if inhaled
H318 - Causes serious eye damage

Precautionary Statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

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

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

Classification according to EU Directives 67/548/EEC or 1999/45/EC Symbol(s)

F - Highly flammable Xn - Harmful

R-phrase(s)

R11 - Highly flammable

R40 - Limited evidence of a carcinogenic effect

R41 - Risk of serious damage to eyes

R43 - May cause sensitization by skin contact R20/22 - Harmful by inhalation and if swallowed R37/38 - Irritating to respiratory system and skin

Other Hazards: No information available.

SECTION 3. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

Chemical Name	EC No.	CAS-No	Weight %
Paraformaldehyde	-	30525-89-4	<100

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - -

Description of First Aid Measures

General Advice: If symptoms persist, call a physician.

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

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

Ingestion: Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

Protection of First-aiders: Use personal protective equipment.

Most Important Symptoms and Effects, both Acute and Delayed: Breathing difficulties. May cause allergic skin reaction. Causes eye burns. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

Indication of any Immediate Medical Attention and Special Treatment Needed Notes to Physician: Treat symptomatically.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - -

Extinguishing Media

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Extinguishing Media which must not be used for Safety Reasons: No information available.

Special Hazards arising from the Substance or Mixture: Flammable. Containers may explode when heated.

Hazardous Combustion Products: Carbon monoxide (CO), Carbon dioxide (CO_2).

Advice for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

Personal Precautions, Protective Equipment and Emergency Procedures: Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions: Should not be released into the environment.

Methods and Material for Containment and Cleaning Up: Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal. Remove all sources of ignition.

Reference to Other Sections: Refer to protective measures listed in Sections 8.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - -

Precautions for Safe Handling: Wear personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition.

Conditions for Safe Storage, including any Incompatibilities: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -

Control Parameters

Exposure Limits: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological Limit Values: This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Monitoring Methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust MDHS70 General methods for sampling airborne gases and vapors

Route of Exposure: Oral, dermal, inhalation

Predicted No Effect Concentration (PNEC): No information available.

Exposure Controls

Engineering Measures: Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimize release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal Protective Equipment

Eye Protection: Goggles (European standard - EN 166)

Hand Protection: Protective gloves

Glove Material: Natural rubber, Nitrile rubber, Neoprene, PVC
Breakthrough Time: See manufacturers recommendations

Skin and Body Protection: Long sleeved clothing. Inspect gloves before use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitization effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

Large Scale/Emergency Use: Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced..
Recommended Filter type: Particulates filter conforming to EN 143.

Small Scale/Laboratory Use: Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Half Mask: Particle filtering: EN149:2001 When RPE is used a face piece Fit Test should be conducted.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls No information available.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

Information on Basic Physical and Chemical Properties Appearance:
White

Physical State: Solid

Odor: Pungent

Odor Threshold: No data available
pH: 3.5 - 5.0 (10% susp.)

Melting Point/Range: 120 - 170°C / 248 - 338°F
Softening Point: No data available

Boiling Point/Range: No information available
Flash Point: 71°C / 159.8°F

Evaporation Rate: Not applicable

Flammability (Solid, Gas): No information available
Explosion Limits Lower: 7% vol

Upper: 73% vol

Vapor Pressure: 1.2 mmHg at 25 °C
Vapor Density: Not applicable
Specific Gravity / **Density:** 1.46

Bulk Density: No data available
Water Solubility: Difficult solubility

Solubility in Other Solvents: No information available
Autoignition Temperature: 300°C / 572°F
Decomposition Temperature: No data available
Viscosity: Not applicable

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

Reactivity: None known, based on information available.

Chemical Stability: Stable under normal conditions.

Hazardous Polymerization: Hazardous polymerization does not occur.
Hazardous Reactions: None under normal processing.

Conditions to Avoid: Incompatible products; Excess heat; Avoid dust formation; Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide (CO), Carbon dioxide (CO_2).

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

Information on Toxicological Effects

Product Information

Acute Toxicity

Oral: Category 4

Dermal: No data available

Inhalation: Category 4

Component: Paraformaldehyde

LD50 Oral: 800 mg/kg (Rat)

LC50 Inhalation: 1070 mg/m^3 (Rat) 4 h

Skin Corrosion/Irritation: Category 2

Serious Eye Damage/Irritation: Category 1

Respiratory or Skin Sensitization

Respiratory: No data available

Skin: Category 1

Germ Cell Mutagenicity: Mutagenic effects have occurred in experimental animals.

Carcinogenicity: Category 2

There are no known carcinogenic chemicals in this product

Reproductive Toxicity: No data available

STOT-Single Exposure: Category 3

STOT-Repeated Exposure: No data available

Target Organs Eyes, Skin, Respiratory system.

Aspiration Hazard: Not applicable

Other Adverse Effects: Carcinogenic effects have been reported in experimental animals. The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information

Symptoms / Effects, both Acute and Delayed: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

Toxicity
Ecotoxicity Effects Do not empty into drains.

Component: Paraformaldehyde
Freshwater Fish: > 10 mg/L 96h
Water Flea: EC50 = 42 mg/L 24h

Persistence and Degradability: Expected to be biodegradable
Bioaccumulative Potential: No information available.
Mobility in Soil: No information available.
Results of PBT and vPvB Assessment: No data available for assessment

Other Adverse Effects

Endocrine Disruptor Information: This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant: This product does not contain any known or suspected substance

Ozone Depletion Potential: This product does not contain any known or suspected substance

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

DOT
UN Number: 2213
UN Proper Shipping Name: PARAFORMALDEHYDE
Transport Hazard Class(es): 4.1
Packing Group: III

IMDG/IMO
UN Number: 2213
UN Proper Shipping Name: PARAFORMALDEHYDE
Transport Hazard Class(es): 4.1
Packing Group: III

IATA
UN Number: 2213
UN Proper Shipping Name: PARAFORMALDEHYDE
Transport Hazard Class(es): 4.1
Packing Group: III
Environmental Hazards: No hazards identified
Special Precautions for user: No special precautions required

Transport in Bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable, packaged goods

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture Component

EINECS: Paraformaldehyde **ELINCS:** Not listed
NLP: Not listed **TSCA:** Listed

DSL: Listed **NDSL:** Not listed
PICCS: Listed
ENCS: Listed
IECSC: Listed
AICS: Listed
KECL: Listed

National Regulations Component:
Paraformaldehyde
Germany - Water Classification (VwVwS): WGK 2

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work
Chemical Safety Assessment: A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

Further information: no limited for paper copy, just for internal uses.
For research use only. Not intended for human or animal diagnostic or therapeutic uses.

Disclaimer

The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

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End of SDS