

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Identification of the Substance

Catalog Number AR1068
Product Name 4% Paraformaldehyde (PFA) Solution in PBS

1.2 Application of the substance or mixture

For research use only.

1.3 Company Identification

Boster Biological Technology Co., Ltd.
3942 B Valley Ave, Pleasanton, CA, 94566, USA.
Tel: 925-485-4527 Toll Free: 888-466-3604 Fax: 925-215-2184

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable solids (Category 2), H228
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Skin irritation (Category 2), H315
Serious eye damage (Category 1), H318
Skin sensitisation (Category 1), H317
Carcinogenicity (Category 2), H351
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Acute aquatic toxicity (Category 3), H402
Chronic aquatic toxicity (Category 3), H412

2.2 GHS Label elements, including precautionary statements

Signal word Danger
Hazard statement(s)
H228 Flammable solid.

H302 + H332 Harmful if swallowed or if inhaled
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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.
P321 Specific treatment (see supplemental first aid instructions on this label).
P330 Rinse mouth.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Concentration
Paraformaldehyde □	30525-89-4	4%

4. FIRST AID MEASURES

Skin contact	Wash off immediately with soap and plenty of water.
Eye contact	Rinse immediately with plenty of water. Consult a physician.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Notes to physician	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.
Special hazards arising from the substance or mixture	Carbon oxides
Further information	Use water spray to cool unopened containers. □

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	For personal protection see section 8.
Environmental precautions	Do not let product enter drains.
Methods and materials for containment and cleaning up	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).
Reference to other sections	For disposal see section 13.

7. HANDLING AND STORAGE

Handling	Avoid contact with skin and eyes.
Storage	Store according to product specifications.

8. EXPOSURE CONTROLS

Appropriate engineering controls

Follow general industrial hygiene and safety practice.

Personal protective equipment

Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment
Hand protection	Impervious gloves
Eye protection	Safety glasses with side-shields
Skin and body protection	Lightweight protective clothing

Environmental exposure controls

Prevent product from entering drains

9. PHYSICAL AND CHEMICAL PROPERTIES

Important Health Safety and Environment Information

a) Appearance Form:	Form: crystalline
b) Odour	pungent
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	no data available
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: noctanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties	no data available
t) Oxidizing properties	no data available

10. STABILITY AND REACTIVITY

Reactivity	no data available
Chemical Stability	Stable under recommended storage and handling conditions.

Possibility of hazardous reactions	no data available
Conditions to avoid	no data available
Incompatible materials	Zinc, Powdered metals, Iron, Copper, Nickel, Brass, Iron and iron salts. □
Hazardous decomposition products	no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity LD50 Oral - Rat - 592 mg/kg

Principle Routes of Exposure/Potential Health effects

Eye irritant effect	No data available
Skin irritant effect	no data available
Sensitization	no data available
Mutagenicity	no data available
Germ cell mutagenicity	no data available
Reproductive toxicity	no data available
Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, ACGIH, NTP, OSHA.
Additional toxicological information	no data available

12. ECOLOGICAL INFORMATION

Ecotoxicity	no data available
Mobility	no data available
Biodegradation	no data available
Bioaccumulation	no data available

13. DISPOSAL CONSIDERATIONS

Disposal methods	Dispose of waste in accordance to applicable national, regional, or local regulations.
Contaminated packaging	Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)	UN number: 2213 Class: 4.1 Packing group: III Proper shipping name: Paraformaldehyde Reportable Quantity (RQ): 1000 lbs Marine pollutant: No
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	Poison Inhalation Hazard: No
IMDG	UN number: 2213 Class: 4.1 Packing group: III EMS-No: F-A, S-G Proper shipping name: PARAFORMALDEHYDE Marine pollutant: No
IATA	UN number: 2213 Class: 4.1 Packing group: III Proper shipping name: Paraformaldehyde ☐

15. REGULATORY INFORMATION

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.
Paraformaldehyde	30525-89-4

Pennsylvania Right To Know Components

	CAS-No.
Paraformaldehyde	30525-89-4

New Jersey Right To Know Components

	CAS-No.
Paraformaldehyde	30525-89-4

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All

materials and mixtures may present unknown hazards and should be used with caution. Since Boster Corporation cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.