

Aditya Birla Chemicals India Limited , Karwar**Material Safety Data Sheet**

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Product : **SUBSTANCE NAME : ORTHO PHOSPHORIC ACID**

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1. SUBSTANCE /PREPARATION AND COMPANY IDENTIFICATION**SUBSTANCE NAME : Ortho Phosphoric Acid (85%)****Company : Aditya Birla Chemicals India Limited****Aditya Birla Chemicals India Limited****Company Name and Address : P.O. : BINAGA,-581307, KARWAR****UTTAR KANNADA DIST.****KARNAKAKA****Telephone : 08382 -230178, 230174, 230514****Telefax number : 08382 –230468****E-mail address : dr.kamat@adityabirla.com****Emergency Information:****Emergency information Address : As stated above****Telephone : As stated above****Telefax number : As stated above****2. COMPOSITION /INFORMATION ON INGREDIENT**

CAS Number : 7664-38-2

U.N. No.: 1805

3. HAZARD IDENTIFICATION

Inhalation may irritate the throat and nose

Skin: Phosphoric acid may not produce an immediate burning sensation upon skin contact, delaying the awareness of the contact with skin. Phosphoric acid may cause burns and ulceration of skin.

Eye contact may cause corneal or conjunctival ulceration.

Ingestion may cause nausea, headache, weakness, burns of the mouth, lips, throat and gastrointestinal tract. Severe abdominal pains may appear. Other effects are thirst, acidemia, convulsions, collapse, shock and death.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen

4. FIRST-AID MEASURES

Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.

Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly

Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids at least for 15 minutes. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

Ingestion: If this chemical has been swallowed, do not induce vomiting. Give large quantity of water or milk and get medical attention immediately. Never give anything by mouth to an unconscious person.

Chemical nature	: Inorganic Acid		5. FIRE-FIGHTING MEASURES
Component	CAS #	% (by weight)	
Phosphoric acid	7664-38-2	85.0 (minimum)	
Water	7732-18-5	Balance	Material itself does not burn. Contact with metals may evolve flammable hydrogen gas.

It may decompose upon heating to produce corrosive and/or toxic fumes of oxides of phosphorous. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.).

Extinguish fire using agent suitable for type of surrounding fire.

Use water in flooding quantities as fog. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Wear self-contained breathing apparatus. Wear full protective equipment

6. ACCIDENTAL RELEASE MEASURES

Use appropriate Personal Protective Equipments during leakage containment and clean-up

Keep material out of water sources and sewers. Build dikes to contain flow as necessary. Recover maximum quantity of acid for reuse or reclamation. Neutralize spilled material on floor using crushed limestone, soda ash, or lime. Extreme caution is necessary during neutralisation using soda ash and lime. Neutralisation reaction can release large amounts of heat.

In all instances, notify appropriate authorities if required by regulations

7. HANDLING AND STORAGE

Handling: Wear proper personnel protection equipments to avoid contact with eyes and skin. Protective over-clothing, hand gloves and shoes made of PVC or rubber can be worn during handling. Wash these apparels after use.

Eyewash fountains should be provided (when concentration is >1.6%) in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. If concentration is >1.6% then facilities for quickly drenching the body should be provided within the immediate work area for emergency use where there is a possibility of exposure. [Note: It is intended that these facilities provide a sufficient quantity or flow of water to quickly remove the substance from any body areas likely to be exposed. The actual determination of what constitutes an adequate quick drench facility depends on the specific circumstances. In certain instances, a deluge shower should be readily available, whereas in others, the availability of water from a sink or hose could be considered adequate.

Storage: Store in well-ventilated place. Do not store with incompatible materials like strong alkalis and active metals. Keep the containers tightly closed.

For bulk storage 316L stainless steel is recommended. This acid is corrosive to mild steel, 304 stainless steel, copper, brass or bronze. Storage vessels should be vented and operated at ambient conditions.

To avoid freezing at low temperatures and maintenance of heat above freezing point using hot water is preferred.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering controls

Store in well ventilated place. Keep the containers tightly closed.

For bulk storage 316L stainless steel is recommended. This acid is corrosive to mild steel, 304 stainless steel, copper, brass or bronze. Storage vessels should be vented and operated at ambient conditions.

To avoid freezing at low temperatures and maintenance of heat above freezing point using hot water is preferred.

Personal Protective Equipments:

Wear fully covering chemical splash goggles on eyes or face shield to avoid contact with eyes due to splashing or spraying

Use positive pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known.

EXPOSURE GUIDELINES:

PEL (OSHA) : (0.25 ppm) 1 mg/ M3, 8 Hr TWA

TLV (ACGIH) : (0.25 ppm) 1 mg/ M3,

STEL : (0.75 ppm) 3 mg/M3, 8Hr. TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Syrupy Liquid
Colour	:	Clear, Colourless
Odour	:	Odourless
Specific Gravity	:	1.6852 at 25 deg. C for 85 % conc.
Melting point	:	21 deg. C for 85% conc.
Boiling point	:	154 deg. C for 85 % conc.
Vapour pressure @35 deg. C	:	0.286 mm Hg at 20 deg. C
Vapour density	:	3.4 (Air=1)
Solubility in water	:	Completely soluble
Viscosity, dynamic	:	23 C.St at 25 deg. C for 85% conc.
pH	:	1.5 (0.1N)

10. STABILITY AND REACTIVITY

Chemical stability: Stable at normal temperatures and storage conditions.

Incompatibility:

- 1* Phosphoric acid reacts exothermically with bases. May react with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas.
- 2* Can initiate the polymerization of certain classes of organic compounds.
- 3* Reacts with cyanide compounds to release gaseous hydrogen cyanide.
- 4* May generate flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents.
- 5* Forms explosive mixture with nitromethane.
- 6* Reacts violently with sodium tetra hydroborate.
- 7* In the presence of chlorides can corrode stainless steel to form explosive hydrogen gas.
- 8* Emits toxic and irritating fumes of oxides of phosphorus when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Inhalation LC50 (rat) : >850 mg/M3 per Hr.

LD50 (Oral-rat) : 1530 mg/kg

Skin absorption LD50(rabbits) : 2740 mg/ kg

Toxic effects described in animals from single, high doses include gastrointestinal irritation and hemorrhage.

Phosphoric acid does not produce genetic damage in bacterial cell cultures

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: LC50 mosquito fish for 96 Hr: 138 mg/L

13. DISPOSAL CONSIDERATIONS

Waste disposal : Treatment , storage, transportation and disposal must be in accordance with applicable Federal, state/Provincial and Local regulations.

Hazardous waste No.: D002

14. TRANSPORT INFORMATION

Hazard Class: 8 Corrosive material

I.D. No. (UN/NA) : 1805

DOT Label : CORROSIVE

Packing Group: III

15. REGULATORY INFORMATION

NFPA Rating : Health - 3; Flammability - 0; Reactivity - 0:

16. OTHER INFORMATION

Risk Phrase(s) : R34

1* R34: Causes burns

Safety Phrase(s): S26, S36, S37, S39, S45

9* S26: In case contact with eyes, rinse immediately with plenty of water and seek medical advice.

- 10* S36: Wear suitable protective clothing
- 11* S37: Wear suitable gloves
- 12* S39: Wear eye/ face protection
- 13* S45: In case of accident or if you feel un-well, seek medical advice immediately (show the label whenever possible)

and rock This phosphoric acid has been manufactured through IMI process using hydrochloric acid phosphate.

IMPORTANT

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