




SECTION 1		Identification of the Substance and of the Supplier
1.1 Product Identifier		
Trade name	Phosphoric Acid	
Chemical Name	Phosphoric Acid	
Synonyms	Orthophosphoric Acid, Monophosphoric acid	
CAS NO.	7664-38-2	
EC No.	231-633-2	
1.2 Relevant identified uses of the substance or mixture and uses advised against		
Relevant identified use(s)	Food phosphates, Food acidulation of soft drinks, Water treatment, Nutrients, Flocculation agent for clarification of sugar juices after liming process. Various other uses in food products.	
1.3 Details of the supplier of the safety data sheet		
Manufacturer	Aditya Birla Grasun Chemicals (Fangchenggang) Ltd. Changshan New District, Gangkou District, Fangchenggang, Guangxi Province, People's Republic of China. Tel: +86 770 2863136 Fax: +86 770 2863083	
1.4 Emergency telephone number: During normal operating times	+86 770 2863136	
SECTION 2		Hazards Identification
EU/EEC According to Regulation (EC) No 1272/2008 (CLP) According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)		
2.1 Classification of the substance or mixture	CLP: Corrosive to Metals 1 - H290 Skin Corrosion 1B - H314 DSD/DPD: Corrosive (C) R34	
2.2 Label Elements CLP	DANGER 	
Hazard statements	H290 - May be corrosive to metals H314 - Causes severe skin burns and eye damage	
Precautionary statements		
Prevention	P234 - Keep only in original container. P260 - Do not breathe mist/vapors/spray. P264 - Wash thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/face protection.	
Response	P390 - Absorb spillage to prevent material damage. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P363 - Wash contaminated clothing before reuse.	

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	<p>P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 - Immediately call a POISON CENTER or doctor/physician. P321 - Specific treatment (see supplemental first aid instructions on this label). P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p>
Storage/Disposal	<p>P406 - Store in corrosive resistant/ container with a resistant inner liner. P405 - Store locked up. P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.</p>
DSD/DPD	
Risk phrases	R34 - Causes burns.
Safety phrases	<p>S36 - Wear suitable protective clothing. S37 - Wear suitable gloves. S39 - Wear eye/face protection. S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).</p>
2.3 Other hazards CLP DSD/DPD	<p>According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous. This product is considered dangerous according to the European Directive 67/548/EEC.</p>
<p>United States (US) According to OSHA 29 CFR 1910.1200 HCS</p>	
2.1 Classification of the substance or mixture 2.2 Label elements OSHA HCS 2012	<p>OSHA HCS 2012: Corrosive to Metals 1 - H290, Skin Corrosion 1B - H314</p> <p>DANGER</p> 
Hazard statements	<p>May be corrosive to metals - H290 Causes severe skin burns and eye damage. - H314</p>
Precautionary statements	
Prevention	<p>Keep only in original container. – P234 Do not breathe mist/vapors/spray. – P260 Wash thoroughly after handling. – P264 Wear protective gloves/protective clothing/eye protection/face protection. - P280</p>

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Response	Absorb spillage to prevent material damage. - P390 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. - P303+P361+P353 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. - P301+P330+P331 Wash contaminated clothing before reuse. - P363 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. - P304+P340 Immediately call a POISON CENTER or doctor/physician. - P310 Specific treatment, see supplemental first aid information. - P321 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
Storage/Disposal	Store in corrosive resistant/ container with a resistant inner liner. - P406 Store locked up. - P405 Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501
2.3 Other hazards OSHA HCS 2012	Under United States Regulations (29 CFR 1910.1200 – Hazard Communication Standard), this product is considered hazardous
Canada According to WHMIS	
2.1 Classification of the substance or mixture WHMIS	Corrosive – E
2.2 Label elements WHMIS	 Corrosive – E
2.3 Other hazards WHMIS	In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).
SECTION 3	Composition/Information on Ingredients
Chemical Name	Phosphoric acid
Identifiers	CAS:7664-38-2 EC Number:231-633-2
Concentration (%)	75 - 76 %
LD50/LC50	Ingestion/Oral-Rat LD50 : 1.25 g/kg Inhalation-Rat LC50 : 25.5 mg/m ³
Classifications According to Regulation/Directive	OSHA HCS 2012: Skin Corr. 1B, H314, Corr. to Metals 1, H290
SECTION 4	FIRST AID MEASURES
4.1 Description of first aid measures	
General Advice	Take off all contaminated clothing immediately (Including Shoes)
Inhalation	Move to fresh air. If required, provide oxygen or artificial respiration. Hospitalize.
Skin contact	Wash immediately, abundantly & thoroughly with water. If possible rinse with bicarbonate solution.
Eye contact	Wash immediately & abundantly with water for at least 15 minutes. Consult an ophthalmologist immediately.



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Ingestion	Do not induce vomiting, rinse mouth and lips with plenty of water if the subject is conscious, then hospitalize immediately. Never give anything in mouth to an unconscious person.
4.2 Most important symptoms and effects, both acute and delayed	Refer to Section 11 - Toxicological Information.
4.3 Indication of any immediate medical attention and special treatment needed	Notes to Physician: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
4.4 Other information	Call emergency medical service. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
SECTION 5	FIRE FIGHTING MEASURES
5.1 Extinguishing media	
Suitable Extinguishing media	Not combustible. Use extinguishing media suitable for surrounding fire.
Unsuitable extinguishing media	None known
5.2 Special hazards arising from the substance or mixture	
Unusual Fire and Explosion Hazards	Not combustible. Under fire conditions, toxic, corrosive fumes are emitted.
Hazardous Combustion Products	Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Oxides of phosphorus.
5.3 Advice for firefighters	Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Keep unauthorized personnel away. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.
SECTION 6	ACCIDENTAL RELEASE MEASURES
6.1 Personal Protection	Ventilate enclosed areas. Avoid contact with skin and eyes and inhalation of hot vapors.
Emergency procedures	Keep unauthorized personnel away. Dike spill using absorbent or impervious materials such as earth, sand or clay. Dike or retain dilution water or water from firefighting for later disposal.
6.2 Environmental protection	Do not allow material to be released to the environment. Do not let the product enter into drains. Contain by damming.
6.3 Methods and material for containment and cleaning up	Pump into an inert labeled emergency container. Clean up puddle of Product immediately. Dilute the puddles with water & recover it.
Neutralization	Dilute cautiously with water & then process. Neutralize with an alkaline carbonate or neutralize with slaked lime (Filter the salt obtained –neutralize the liquid)
Reference to other sections	Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 – Disposal Considerations.



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SECTION 7	HANDLING AND STORAGE
7.1 Precautions for safe handling	
Handling	Do not get on skin or in eyes. Avoid breathing vapors and mists. Do not ingest. Handle and open container with care. Use only with adequate ventilation. Use caution when combining with water; DO NOT add water to corrosive liquid, ALWAYS add corrosive liquid to water while stirring to prevent release of heat, steam and fumes. This product reacts violently with bases liberating heat and causing spattering.
7.2 Conditions for safe storage, including any incompatibilities	Store in a dry, well-ventilated place. Store locked up. Keep away from incompatible materials. Ventilate enclosed areas.
Storage Technical measures/ Storage information	Keep at temperature above 21 ⁰ C Provide a catch-tank & an impermeable corrosion resistant floor with drainage to a neutralization tank within a bunked area.
Incompatible Products	Bases-Quicklime Alcohols-Ketones-Amines Water Nitrates-Chlorates-Calcium Carbide Metals-Finely divided metals Combustible Material
Recommended MOC	Stainless steel 316 L-Carbon Steel (Vulcanized Rubber coated Steel) Plastic Materials (Polyurethane) Small Quantities: Glass protected by a fitted metallic covering
To be avoided	Metals: Ordinary Steel, Copper, Aluminum, (and alloys)
7.3 Specific end use(s)	Refer to Section 1.2 - Relevant identified uses.
SECTION 8	EXPOSURE CONTROL/PERSONAL PROTECTION
8.1 Control parameters	OSHA: 3 mg/m ³ STEL 1 mg/m ³ TWA
8.2 Exposure controls Engineering Measures/Controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Personal Protective Equipment Respiratory	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.
Eye/Face	Wear face shield and eye protection. An emergency eye wash must be readily accessible to the work area. Ensure safety shower is available near all areas of bulk storage, delivery and use.
Hands	Wear protective gloves selected with regard to both durability as well as permeation resistance.
Skin/Body	Wear protective clothing
General Industrial Hygiene Considerations	Do not get in eyes or on skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Handle in accordance with good industrial hygiene and safety practice.
Environmental Exposure Controls	Follow best practice for site management and disposal of waste.



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SECTION 9	PHYSICAL AND CHEMICAL PROPERTIES
9.1 Information on Physical and Chemical Properties	
Physical State (20° C)	Liquid (viscous)
Colour	Colourless
Odour	none
pH	1 – 1.5 (1 % solution)
Specific gravity	1.575 @ 25 deg C
Freezing point	-17.5 deg C (Pure)
Boiling point	135 deg C (Pure)
Water solubility	Miscible
9.2 Other Information	No additional physical and chemical parameters noted.
SECTION 10	STABILITY AND REACTIVITY
10.1 Reactivity	No dangerous reaction known under conditions of normal use.
10.2 Chemical stability	Stable under normal handling & storage conditions
10.3 Possibility of hazardous reactions	Hazardous polymerization will not occur.
10.4 Conditions to avoid	Incompatible material
10.5 Incompatible material	Bases, Quicklime: Exothermic reaction-Violent reaction Alcohols- ketones -Amines: Exothermic reaction Water: Highly exothermic reaction & possibility of spitting Nitrates-Chlorates – Calcium Carbide: Explosive reaction (Flammability) Metals – finely divided metals Combustible materials: Overheating and ignition
10.6 Hazardous decomposition products	Oxides of phosphorus
SECTION 11	TOXICOLOGICAL INFORMATION
11.1 Information on toxicological effects	
Acute toxicity	May be harmful by inhalation, ingestion, or skin absorption. Material is destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin.
Inhalation	Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.
Route(s) of entry/exposure	Inhalation, Skin, Eye, Ingestion
Potential Health Effects:	<u>Inhalation</u> Acute (Immediate) I Under normal conditions of use, no health effects are expected. Chronic (Delayed) I Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough. <u>Skin</u> Acute (Immediate) I Causes severe skin burns and eye damage. Chronic (Delayed) I Repeated or prolonged exposure to corrosive materials will cause dermatitis. <u>Eye</u>



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	<p>Acute (Immediate) 1 Corrosive. Can cause permanent damage to the cornea, blindness.</p> <p>Chronic (Delayed) 1 Repeated or prolonged exposure to corrosive materials or fumes may cause conjunctivitis.</p> <p><u>Ingestion</u></p> <p>Acute (Immediate) 1 Causes corrosion, burns to mouth and esophagus, abdominal pain, chest pain, nausea, vomiting, diarrhea, seizures. Aspiration of the swallowed or vomited product can cause severe pulmonary complications.</p> <p>Chronic (Delayed) 1 Repeated or prolonged exposure to corrosive materials or fumes may cause gastrointestinal disturbances.</p> <p><u>Carcinogenic Effects:</u> This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.</p>
SECTION 12	ECOLOGICAL INFORMATION
12.1 Toxicity	LC50 - lethal concentration 50% of test species, 138 mg/l/96 hr, fish: Mosquitofish. Practically nontoxic.
12.2 Persistence and degradability	No data found for product.
12.3 Bioaccumulative potential	No data found for product.
12.4 Mobility in Soil	No data found for product.
12.5 Results of PBT and vPvB assessment	PBT and vPvB assessment has not been carried out.
12.6 Other adverse effects Ecological Fate	No data found for product.
12.7 Other Information	No specific biodegradation test data located. While acidity of this material is readily reduced in natural waters, the resulting phosphate may persist indefinitely or incorporate into biological systems.
SECTION 13	DISPOSAL CONSIDERATIONS
13.1 Waste treatment methods	
Product waste	Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. This material is considered an EPA hazardous waste. EPA "RCRA" Hazardous Waste Code: "C" Corrosive.
Packaging waste	Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
SECTION 14	TRANSPORT INFORMATION
UN number	UN 1805
Description of goods	Phosphoric Acid
ADR/RID/IMO class	8
Packing group	III
Environmental hazards	NDA
Special precautions for user	None known
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not relevant
14.8 Other information	<p>The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.</p> <p>DOT • Phosphoric acid has a reportable quantity of 5000 lbs (2270 kg) as listed in Appendix A to 49 CFR 172.101.</p>



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SECTION 15	REGULATORY INFORMATION
Regulations	The statements below provide additional data on regulatory classification. The listed transportation classification does not address regulatory variations due to changes in packing size, mode of shipment or other regulatory descriptors.
Identification of product	Hazard Class: 8 Shipping name: Phosphoric acid ID number: UN - 1805
Hazardous symbols and indications	Packing group: III
Sentences hazard / health	Corrosive
Risk Phrases	R 34: Causes Burns
Safety Phrases	S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice S 28: After contact with skin, wash immediately with plenty of water S 36 / 37 / 39: Wear suitable protective clothing, gloves and eye / face protection S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
Note:	The regulatory information given above only indicates the principal regulations specifically applicable for the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.
Chemical Safety Assessment	No chemical safety assessment has been done

SECTION 16	OTHER INFORMATION
Last Revision Date	25.07.2015
Disclaimer/Statement of Liability	The information herein is given in good faith but no warranty, expressed or implied, is made.