

Safety data sheet as per Commission Regulation (EU) 2015/830
Product: Yellow Phosphorus



◆ **SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1 Product identifier

Trade name	Yellow Phosphorus/ YP
Chemical Name	Phosphorous
CAS Number	12185-10-3
EC Number	231-768-7

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals and Manufacture of rubber products
Uses identified against	Food additive, medicinal products, cosmetic products

1.3 Details of the supplier of the safety data sheet:

Manufacturer	Prasol Chemicals Pvt. Ltd., Prasol House, Plot No.A-17/2/3, T.T.C. Indl. Area, Khairme M.I.D.C., Navi Mumbai - 400 710. Maharashtra, India.
Telephone	+91-22-27782555
Telefax	+91-22-27782430
e-mail address	sales@prasolchem.com; inquiry@prasolchem.com

1.4 Emergency telephone number

Telephone	+91-22- 27782555
Language	English

◆ **SECTION 2: Hazards identification**

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Pyrophoric Solid	Category 1	H250	Catches fire spontaneously if exposed to air.
Acute Toxicity	Category 1	H300	Fatal if swallowed.
Skin Irritation	Category 1A	H314	Causes severe skin burns and eye damage
Acute Toxicity	Category 1	H330	Fatal if inhaled
Aquatic Acute	Category 1	H400	Very toxic to aquatic life

Information concerning particular hazards for human and environment: No further information

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008 (CLP)

Hazard pictograms



GHS02



GHS05



GHS06



GHS09

Signal word Danger

Hazard statements	H250	Catches fire spontaneously if exposed to air.
	H300	Fatal if swallowed.
	H314	Causes severe skin burns and eye damage
	H330	Fatal if inhaled
	H400	Very toxic to aquatic life

Precautionary statements

General	P103	Read label before use.
Prevention	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P222	Do not allow contact with air.
	P233	Keep container tightly closed.
	P260	Do not breathe dusts or mists.
	P264	Wash hands thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P271	Use only outdoors or in a well-ventilated area.
	P273	Avoid release to the environment.
	P280	Use protective gloves and eye protection.
	P284	In case of inadequate ventilation, wear respiratory protection.
Response	P301+P310	IF SWALLOWED: Immediately call a doctor.
	P301+P330+ P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Safety data sheet as per Commission Regulation (EU) 2015/830
Product: Yellow Phosphorus



P302+P334	IF ON SKIN: Immerse in cool water or wrap in wet bandages.
P303+P361+ P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340	IF INHALED: Remove person to fresh air and keep 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 doctor.
P321	Specific treatment: Wash with plenty of water and get immediate medical attention.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, sand to extinguish.
P391	Collect spillage.
Storage P405	Store locked up
Disposal P501	Dispose of contents and container in accordance with national regulations

2.3 Other hazards

Not a PBT, vPVB substance according to the criteria of REACH regulation

SECTION 3: Composition/information on ingredients

3.1 Substances

Ingredient	CAS No.	EC No.	Concentration (%)
Yellow Phosphorus/ YP	12185-10-3	231-768-7	99 min
Additional information:			
Molecular Formula	P ₄		
Molecular Weight	123.90		

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Remove from exposure, lie down. Never give anything by mouth to an unconscious person.

After inhalation

Remove the patient to fresh air at once.

After skin contact

Take off all contaminated clothing immediately. If skin irritation persists, call a doctor. Wash off immediately with soap and plenty of water.

In case of skin burns caused by contact with phosphorus, immediately physically remove any phosphorus adhering to the skin with water (e.g. by using a brush) and douse with a 2% copper sulphate solution. Cover wounds with a sterile dressing, and keep moist in all circumstances. Immediate medical treatment necessary, as untreated burns can result in slow-healing wounds and toxication with yellow phosphorus.

After eye contact

Irrigate each eye continuously with water or 0.9% saline (NS) and seek medical advice.

After swallowing

Rinse mouth. Consult a doctor immediately. Do not stimulate to vomit.

4.2 Most important symptoms and effects, both acute and delayed

Apnea, coma, and convulsions; conjunctival pain, lacrimation, photophobia, kerato-conjunctivitis, and corneal vasculature; dizziness; headache; fatigue; irritability, insomnia; gastro intestinal disturbance

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively

Symptoms after inhalation: coughing, photosensitivity.

Danger of circulatory collapse. Treatment: it may be necessary to administer oxygen.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray jet, sand

Unsuitable extinguishing media

Gaseous extinguishing media, powerful water jet.

5.2 Special hazards arising from the substance or mixture

Spontaneously flammable in air. Gives off dangerous fumes in a fire.

Fumes from fires are irritating to respiratory passages, eyes and skin.

Fumes may contain phosphine, phosphorus pentoxide, phosphoric acid.

Phosphorus pentoxide in air forms a dense, non-transparent, corrosive mist



5.3 Advice for firefighters of phosphoric acid.
 Wear self-contained breathing apparatus.

◆ **SECTION 6: Accidental release measures**

- 6.1 **Personal precautions, protective equipment and emergency procedures** Use personal protective equipment.
 Avoid breathing dust or gas during processing.
 Ensure adequate ventilation
- 6.2 **Environmental precautions** Do not allow to enter sewers, surface or ground water.
- 6.3 **Methods and material for containment and cleaning up** Soak up with inert absorbent material and dispose of as hazardous waste.
 Take up with absorbent material (e.g. sand). Keep moist, use 10% copper sulphate solution to convert to harmless copper phosphide and transport to landfill. Neutralise with soda or slaked lime. Take up mechanically with alkali-resistant equipment. Rinse away residues with soda solution and plenty of water. Oxidise large quantities with chlorine bleaching lye.
 Transport to waste disposal facility in tightly closed drums.
- 6.4 **Reference to other sections** Section 8 for information on personal protection equipment.
 Section 13 for disposal information

◆ **SECTION 7: Handling and storage**

- 7.1 **Precautions for safe handling** Handle under protective gas (nitrogen, carbon dioxide, inert gas) or water.
 Store and transport in tightly closed drums under a layer of water.
 Avoid aerosol formation. Instructions for protection against fire and explosion: keep well away from sources of ignition/do not smoke.
 Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Avoid the formation and deposition of dust.
 Avoid impact, friction and electro-static loading; risk of ignition! Earth vessels and equipment well. Use antistatic tools. Keep working area moist and well ventilated. Ensure that dried product residues are re-dampened before transferring, handling or transporting.
 Keep fire extinguishing equipment in readiness when opening the drum.
 Always handle in moist condition under water or under protective gas (nitrogen, carbon dioxide, inert gas). Cover extinguished fire sources with 10% copper sulphate solution or soda solution. It may be necessary to add surfactants to the solution.
- 7.2 **Conditions for safe storage, including any incompatibilities**
- Advice on protection against fire and explosion** Ensure good ventilation when handling large amounts.
- Storage** Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Temperature class: T3 Fire class: A Dust explosion class: ST2 Capable of dust explosion
 Advice on storage compatibility: Do not store with strong oxidizing agents
 When stored in unopened container, the product is stable for at least 12 months
- Advice on common storage** Observe prohibition against storing together!
- Storage stability** Maximum Storage Temperature: 30°C
- 7.3 **Specific end use(s)** No further relevant information available

◆ **SECTION 8: Exposure controls/personal protection**

- 8.1 **Control parameters**
 Occupational Exposure Limit Not determined, use as an intermediate under strictly controlled conditions.
- 8.2 **Exposure controls**
- Appropriate engineering controls** use material transfer, metering and blending plants that are closed
- Personal protective equipment**
- Eye/ face protection** closed goggles, face shield
- | | | | |
|------------------------|-----------------------|-----------|-------------------|
| Skin protection | Type of material | Thickness | Breakthrough time |
| Hand protection | Butyl-rubber | 0.5 mm | > 480 min |
| | Polychloroprene (PCP) | 0.5 mm | 110 min |
| Body protection | Boots, body suit | | |



Respiratory protection	Full-face respirator. Avoid inhaling vapours.
Thermal hazards	Flammable, possibility of decomposition on excess heating
Industrial hygiene	Avoid contact with skin and eyes. Remove immediately all contaminated clothing. Keep working clothes separately. Smoking, eating and drinking should be prohibited in the application area.

◆ **SECTION 9: Physical and chemical properties**

9.1 **Information on basic physical and chemical properties**

Appearance	Yellow waxy solid
Odour	no data available
Odour threshold	no data available
pH	~3 at 10 g/l at 37 °C(after 14d)
Melting point	44.1°C
Boiling point	280°C
Flash point	not applicable
Evaporation rate	not applicable
Flammability (solid, gas)	Highly Flammable
Flammability limits	no data available
Vapour pressure	0.181 mmHg
Vapour density	not determined
Relative density	1.83 at 20°C
Solubility in water	0.33mg/l at 15°C
Partition coefficient	not applicable
Ignition temperature	no data available
Decomposition temperature	no data available
Viscosity at 100 °C	not applicable
Explosive properties	Can be ignited by application of shock, friction or electrostatic sparking..
Oxidizing properties	no oxidizing properties
9.2 Other information	No further information

◆ **SECTION 10: Stability and reactivity**

10.1 Reactivity	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous polymerization will not occur.
10.2 Chemical stability	Under storage at normal ambient temperatures (-40°C to +40°C), the product is stable.
10.3 Possibility of hazardous reactions	In contact with strong acids, hydrogen gas, phosphine may be produced. spontaneous flammability
10.4 Conditions to avoid	Extremes of temperature and direct sunlight. Keep away from ignition sources, heat and naked flame. Keep material out of water sources and sewers.
10.5 Incompatible materials	Air
10.6 Hazardous decomposition products	Hydrogen phosphide, phosphines

◆ **SECTION 11: Toxicological information**

11.1 **Information on toxicological effects**

Acute toxicity			
LD50	oral	rat	3.03mg/kg bw Fatal, category 1
LC50	inhalation		no data available
LD50	Dermal		no data available
Skin irritation		Not irritating (0.1% solution in oil)	
Serious eye irritation		Not Irritating (0.1% solution in oil)	
Respiratory or skin sensitization		Study not conducted as product is spontaneously flammable in air at room temperature	
Germ cell mutagenicity		non mutagenic (Ames test)	
Carcinogenicity		no data available	
Reproductive toxicity		NOAEL 0.015 mg/kg bw/d ; LOAEL 0.075 mg/kg bw/d.	

Safety data sheet as per Commission Regulation (EU) 2015/830
Product: Yellow Phosphorus



STOT-single exposure 0.1% solution is not irritating
 STOT-repeated exposure No data available

◆ **SECTION 12: Ecological information**

12.1 Toxicity				
Aquatic toxicity				
Toxicity to fish	LC50	48h	14.4µg/L	<i>Gadus morhua</i>
Toxicity to aquatic invertebrates	NOEC	48h	0.03mg/l	<i>Daphnia magna</i>
12.2 Persistence and degradability				
Biodegradation	Data not required as product is inorganic			
12.3 Bioaccumulative potential	No indication of bioaccumulative potential			
12.4 Mobility in soil	Not applicable			
12.5 Results of PBT and vPvB assessment	Not a PBT, vPvB substance according to the REACH regulation			
12.6 Other adverse effects	Harmful to aquatic organisms The material is harmful to the environment			

SECTION 13: Disposal considerations

13.1 Waste treatment methods	Observe all federal, state, and local environmental regulations. Dampen, pick up mechanically and dispose of as prescribed. Do not allow to dry out. Avoid raising dust. Contact a licensed professional waste disposal service to dispose of this material. Do not dispose in sewage.
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◆ **SECTION 14: Transport information**

	ADR/RID	IMDG	ICAO/IATA
14.1 UN Number	1381	1381	Not permitted
14.2 UN proper shipping name	Phosphorus, amorphous		
14.3 Transport hazard class	4.2	4.2	
14.4 Packaging group	I	I	
14.5 Environmental hazards	environmentally hazardous, marine pollutant		
14.6 Special precautions for the user	Store under water		
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	See regulatory information for transport approval		

◆ **SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
Major accident hazard	Seveso III no
International Chemical Inventory Status	
USA (TSCA)	listed
Canada (DSL)	listed
Australia (AICS)	listed
Japan (MITI)	listed
Korea (KECL)	listed
Philippines (PICCS)	listed
China	listed
New Zealand	listed
Taiwan	listed
15.2 Chemical safety assessment	A Chemical Safety Assessment will be carried out at the time of REACH registration

◆ **SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Further information:

Sections in which changes have been made since the last version are marked with a diamond ◆ in the left hand margin.

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Abbreviations and acronyms in English language:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstracts Service (division of the American Chemical Society)
CLP	Classification for Labeling and Packaging
DSL	Domestic Substances List
EC	European Commission
EC50	Half maximal effective concentration
EINECS	European Inventory of Existing Commercial Chemical Substances
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
IATA	International Air Transport Association
IBC	International Bulk Chemical
ICAO	International Civil Aviation Organization
IMDG	International Maritime Code for Dangerous Goods
KECL	Korea Existing Chemicals List
KOC	Soil adsorption coefficient
KOW	Partition Coefficient octanol-water
LC50	Lethal concentration, 50 percent
LD50	Lethal dose, 50 percent
MARPOL	International Convention for the Prevention of Pollution from Ships
MITI	Ministry of International Trade and Industry
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
PBT	Persistent, bioaccumulative and toxic substances
PICCS	Philippine Inventory of Chemicals and Chemical Substances
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
STOT	Specific target organ toxicity
TSCA	Toxic Substances Control Act
UN	United Nations
vPVB	(very) Persistent, (very) Bioaccumulative

Sources

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

ECHA <https://echa.europa.eu/registration-dossier/-/registered-dossier/15360/1>
