

Safety Data Sheet

1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Trade name %57 FUMIGAS

1.2 Relevant identified uses of the substance and uses advised against

Intended use Fumigant

1.3 Details of the supplier of the safety data sheet

Manufacturer SANDHYA ORGANIC CHEMICALS PVT. LTD.

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1.4 Emergency telephone number

Responsible person Rıfat Göztaş

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Poison Information Center
UZEM 114

Emergency First Aid Center 112

Fire-fighting 110

%57 FUMIGAS

BARCAN

Version: 1.1

Date of issue: 09.01.2016

Revision date : 16.04.2022

According to Regulation (EC) No
2015/830 amending Annex II of
Regulation (EC) No 1907/2006
(REACH)

Safety Data Sheet

It has been prepared in accordance with the provisions of the "Regulation on Safety Data Sheets on Hazardous Substances and Mixtures" dated 29 December 2014 and numbered 29204.

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16.04.2022

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008

Water react 1; H 260
Acute Tox. 2 Inhalation; H330
Aquatic Acute 1; H400

2.2 Label elements:

Labelling according to Regulation (EC) 1272/2008

Hazard pictograms



Signal word: DANGER

Hazard statements

H260	In contact with water releases flammable gases which may ignite spontaneously.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.

Precautionary statements

Prevention

P223	Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P231 + P232	Handle under inert gas. Protect from moisture.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

Response

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.
P320	Specific treatment is urgent (see this label).
P335 + P334	Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
P370 + P378	In case of fire: Use with sand, carbon dioxide or dry extinguishing material for extinction.
P391	Collect spillage.

Storage

P402 + P404	Store in a dry place. Store in a closed container.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

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Disposal

P501 Dispose of contents/container according to the local regulations.

EUH statements

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Hazardous component for the label

Aluminium phosphide

2.3 Other hazards

The mixture does not fulfill criteria for classification as PBT or vPvB; on the date of creation of this SDS the mixture is not on the Candidate list of SVHC

3. Composition/information on ingredients

3.1 Substance

Not Applicable

3.2 Mixtures

Aluminium phosphide

3.3 Ingredients

Substance	%(W/W)	CLASSIFICATION
		CLP
Aluminium phosphide CAS ¹ NO: 20859-73-8 EINECS ² NO: 506-87-6	57	Water-react. 1; H260 Acute Tox. 2 (Inhalation); H330 Aquatic Acute 1; H400
Ammonium carbonate CAS NO: 506-87-6 EINECS NO: 208-058-0	3	Not classified as hazardous products according to the regulation of (EC) 1272/2008 [CLP/GHS].

NOTE: Impurities that need to be classified or affect the classification of the product: None
The explanations for all H (Hazard statements) specified in the table are given in Section 16.

3.3 Classification System

More detailed information on the level of harmfulness of substances is given in Sections 8, 11, 12 and 16.

4. First aid measures

4.1 Description of first aid measures

4.1.1 General information:

- Aluminium phosphide reacts with moisture and water to produce phosphine gas (PH₃).
- Danger toxic when gas forms may smell like garlic since odor might not be detected.
- When container is opened, the contents may react with moisture in the air and cause a release of phosphine gas which will spontaneously burn in air.
- Ingestion of tablets, pellets or dust will be harmful or fatal.
- Delayed or other health effects: Phosphine poisoning may take up to several days.

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- Be aware that aluminium phosphide reacts with moisture.
- Provide personal protective equipment (PPE) before the rescue.

4.1.2 Inhalation:

- Move to fresh air.
- If not breathing, give rescue breathing.
- If breathing is difficult give oxygen.
- Seek medical attention if breathing is still difficult.

4.1.3 Skin contact:

- Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
- Remove contaminated clothing and place into plastic bag and seal for disposal.
- Use soap and water to remove from the skin.

4.1.4 Eye contact:

- Flush eyes with water immediately while holding eyelids open.
- Remove contact lenses, if present and easy to do.
- Rinse thoroughly with plenty of water for at least 15 minutes.
- Seek medical attention if irritation persists.

4.1.5 Ingestion:

- If swallowed, get medical attention immediately.
- DO NOT INDUCE VOMITING.
- Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Aluminum phosphide reacts with moisture to release hydrogen phosphide (Phosphine gas). Symptoms of sever poisoning may occur within a few hours up to several days. Phosphine poisoning may result in pulmonary edema, liver elevated serum GOT, LDH and alkaline phosphate, reduced

Inhalation Fatal if inhaled.

Skin Contact It may cause skin irritation.

Eye Contact It may cause eye irritation.

Ingestion Ingestion may be harmful or fatal.

Acute and delayed effects are specified in sections 2. and 11.

4.3 Self-protection of the first aider

First responders need to wear full-bunker gear with SCBA, never enter a confined space unless fully protected with proper personal protective equipment (PPE).

4.4 Indication of any immediate medical attention and special treatment needed

prothrombin, hemorrhage and jaundice and kidney hematuria and anauria.

5. Firefighting measures

5.1 Extinguishing media

Suffocate flames with sand, carbon dioxide or dry extinguishing material.

5.2 Unsuitable extinguishing media:

Water

5.3 Special hazards arising from the substance or mixture

In contact with water releases flammable gases which may ignite spontaneously.
Do not use water.

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5.4 Advice for firefighters

- Make sure that you have read the applicators manual.
- Remove all sources of ignition
- Provide adequate ventilation.

5.5 Additional information

Do not use too much fire extinguisher and avoid polluting the environment.
Firefighting residues should not be allowed to reach the drains and groundwater

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove all source of ignition.
Provide adequate ventilation.
Avoid contact with skin, eyes and clothing.
Use personal protective equipment.
Eyes: Wear safety goggles or safety glasses to prevent contact. Suggest using single use safety goggles or clean between use.
Body: Long sleeve shirts, long pants, socks, rubber boots and dry cotton gloves. Suggest using as much disposable chemical resistant suit and hat, rubber booties, dry cotton gloves.
Hands: Dry cotton gloves (disposable).
Respiratory: Wear an approved NIOSH/MSA full face mask respirator that provides protection from this product if phosphine is released. Suggest that you use disposable approved respiratory mask with hydrogen phosphide cartridge or properly clean before use and store in a sealed plastic bag.
Other: After removal of application clothing brush off any dust left on your clothing. Wash your hands, do not eat, drink or smoke until you have removed all source of product.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer systems.
Should not be released into the environment.

6.3 Methods and material for containment and cleaning up

Collect spillage.
Follow all label instructions for disposal of residual material and/or empty containers.
Do not use water at any time during clean up.
Wear gloves when handling aluminum phosphide.
Damaged aluminum flasks should be transferred to a dry metal container and immediately sealed and properly labeled as aluminum phosphide.

6.4 Other information

Dispose of contents/container to local/regional/national/international regulations.

6.5 Reference to other sections

Information on safe use is given in section 7.
Information on personal protective equipment is given in section 8.
Information on disposal consideration is given in section 13.

7. Handling and storage

7.1 Precautions for Safe Handling

7.1.1. Protective measures

Personal preventions
Keep away from any possible contact with water, because of violent reaction and possible flash fire.
Handle under inert gas. Protect from moisture.

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Do not breathe dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
Extreme caution must be used if package is damaged in shipment.
Follow the applicators manual of opening the container away from the body.
Wear dry cotton gloves.
Keep away from children.
Do not get into eyes.
Do not taste or swallow.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Wear respiratory protection.
Fire preventions
Remove all sources of ignition.
Environmental precautions
Avoid release to the environment.
Do not let product enter drains.
Discharge into the environment must be avoided.

7.1.2 Advice on general occupational hygiene

Take off contaminated clothing and wash before reuse.
Wash thoroughly after handling the material.
Wash contaminated clothing before reuse.
Contaminated work clothing should not be allowed out of the workplace.
Do not get in eyes, on skin, or on clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Wear respiratory protection.
Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in original labeled container. Keep in cool and dry areas.
Make sure that the containers do not pressurize due to extreme heat.
Take technical precautions such as local exhaust ventilation, reduced humidity, reduce the access to the product.

7.3 Advice on common storage

Store in a cool, dry and well-ventilated place.
Store away from incompatible substances such as moisture, water, acid.
Observe manufacturer's storing and handling recommendations.
Keep away from heat/sparks/open flames/hot surfaces.

7.4 Specific precautions on storage

Observe the national and local regulations concerning handling and storage.

8. Exposure controls/personal protection

8.1 Control parameters

No data available

8.2 Exposure controls

Adequate ventilation should be used during processing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

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Avoid breathing/fume/gas/mist/vapours/spray.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.

8.2.1 Appropriate engineering controls:

Make sure that environment is clean and very well ventilated.
Use local exhaust ventilation.
If user operations generate vapors use ventilation to keep exposure to airborne contaminants below the exposure limits given above. See Section 7.

8.2.2 Individual protection measures, such as personal protective equipment

8.2.2.1 Respiratory protection:



Face mask with type B2 filter or equivalent (EN136), e.g. use combined filter A2B2E2K2P3D) (EN 14 387 +A1), self-contained breathing apparatus (EN 133)

8.2.2.2 Eye protection:



Wear safety goggles or safety glasses to prevent contact.
Suggest using single use safety goggles or clean between use.

8.2.2.3 Hand protection:



Dry cotton gloves (disposable).

8.2.2.4 Skin protection:



Long sleeve shirts, long pants, socks, rubber boots and dry cotton gloves. Suggest using as much disposable chemical resistant suit and hat, rubber booties, dry cotton gloves..

8.2.2.5

8.2.3 Environmental exposure control:

Legislation for the protection of the environment must be met in full.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form/Physical state	Solid
Color	Dark Grey to Yellowish
Odour	Garlic, decaying fish or odorless
Odor threshold	Since odor might not be detected under certain circumstances, the absence of a garlic odor does not mean that phosphine gas is absent.

9.2 Other information

pH	Not applicable
Melting point/Freezing point (°C)	Aluminium Phosphide: >1000
Boiling point/range (°C)101,3 kPa	No data available

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Flammability/Combustibility	Not applicable
Decomposition temperature (°C)	No data available
Flash Point (°C)	No data available
Ignition temperature (°C)	No data available
Auto ignition temperature (°C)	No data available
Viscosity (mPa s)	No data available
Density @20°C (g/cm ³)	No data available
Specific gravity (water=1)	Aluminium Phosphide: 2.55 Phosphine: 1.17
Solubility in water	Insoluble in water. It reacts in contact with water.
Partition coefficient n-Octanol/Water (log Po/w)	No data available
Upper and lower explosion limit	Phosphine gas: LEL 1.8% v/v.
Explosive Property	End-use product has no impact explosion characteristics
Oxidation Property	No data available
Vapor pressure (mmHg) @10 °C	Aluminium Phosphide: 0 Phosphine gas: 40
Vapor density (air=1)	No data available
Miscibility	No data available
Fat solubility	No data available
Conductivity	No data available

10. Stability and reactivity

10.1 Reactivity

Product will react with exposure to moisture or water.

10.2 Chemical stability

Considered stable under normal ambient temperatures except hydrolysis.
Aluminum phosphide reacts with moisture to product hydrogen phosphide gas.
Ammonium carbonate produces ammonia and carbon dioxide.

10.3 Possibility of hazardous reactions

Formation of hydrogen phosphide gas, ammonia gas and carbon dioxide.

10.4 Conditions to avoid

Avoid contact with moisture and water

10.5 Incompatible materials

Product will react with strong oxidizing agents, acids or bases.

10.6 Hazardous decomposition products

Hydrogen phosphide gas, ammonia and carbon dioxide.

10.7 Hazardous polymerization:

Hazardous polymerization will not occur.

11. Toxicological information

11.1 Information on toxicological effects

Under normal conditions of use, primary exposure occurs by inhalation.

Acute toxicity

Aluminium phosphide [#CAS# 20859-73-8]:

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Acute LD50 oral rat: 11,5 mg/kg
Acute Dermal LD50: >5,000 mg/kg (1 hour exposure)
Hydrogen Phosphide (phosphine gas) [CAS#7803-51-2]:
LC50 Inhalation = 190 ppm (1 hour)

Corrosivity

Skin corrosion/irritation

No adverse effects known.

Serious eye damage/irritation

No adverse effects known.

Sensitization

No adverse effects known.

Respiratory or skin sensitisation

No adverse effects known.

Germ cell mutagenicity

Hydrogen Phosphide ; · Increased frequency of cells with structural chromosomal aberrations noted in an in vitro cytogenetic assay with Chinese hamster ovary cells.

Carcinogenicity

Aluminum Phosphide; Not classified as a carcinogen by IARC, OSHA or NTP.
Hydrogen Phosphide; In a 2 year study rats were exposed to 48-90 g/m³ of feed and no overt systemic toxicity was noted. Not classified as a carcinogen by NTP³, IARC⁴veya OSHA⁵

Fertility

Aluminum Phosphide
Not expected to produce reproductive or developmental effects.
Hydrogen Phosphide
Not expected to produce reproductive or developmental effects.

Developmental Toxicity (Teratogenicity)

No adverse effects known.

(STOT)– single exposure

Not classified.

Specific target organ toxicity (STOT)– repeated exposure

Not classified.

Aspiration hazard

Not classified.

12. Ecological information

12.1 General Effects on the Environment

Very toxic to aquatic life.

12.2 Ecotoxicity

12.2.1 Acute toxicity

No data available

12.2.2 Chronic Toxicity

No data available

12.3 Persistence and degradability

Decomposition Potential of the products

No data available

The half-life of degradation

No data available

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Potential degradation of product content in the evaluation of wastewater treatment plants	Product has inhibitory effects on the activities of micro-organisms, whether the information is not related, the likely impact on waste water treatment plants is unknown.
12.4 Bioaccumulative potential	
Potential of the product to accumulate in the biological environment (biota)	No data available
Potential for product to pass through food	No data available
Octanol / Water Partition Coefficient, LogPow	No data available
Bioconcentration Factor, BCF	No data available
12.5 Mobility	
In contact with water releases flammable gases which may ignite spontaneously. Partition coefficient (Koc): No data available	
Water threat class	No data available
Clean water impact	No data available
Known or predicted environmental distribution	No data available
Physical State of the Product	Solid
Solubility in water	Insoluble with water
Stability in Soil	No data available
12.6 Biodegradability	
No data available	
12.7 Results of PBT and vPvB assessment	
Mixture does not fulfill criteria as PBT nor vPvB.	
12.8 Degradability with Other Processes	
Potential of Degradability by Other Processes (such as Oxidation or Hydrolysis) and Half Life of Degradation	No data available
Photolysis and Half-Life	No data available
Effect on Wastewater Treatment Plants	Product has inhibitory effects on the activities of micro-organisms, whether the information is not related, the likely impact on waste water treatment plants is unknown.
12.9 Other Adverse Effects	
Ozone Depletion Potential	It does not contain chemicals that have the potential to deplete the ozone layer.
Photochemical Ozone Generating Potential	Data not available
Global Warming (Greenhouse Effect) Potential	Data not available
Other Adverse Effects on the Environment	Very toxic to aquatic life.
12.10 Additional information	
Do not allow to release into the environment. Do not let product enter drains. Discharge into the environment must be avoided. Spillages or uncontrolled discharges into watercourses must be alerted to the Environmental Agency	

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or other appropriate regulatory body.

See sections 6, 7, 13, 14 and 15 for information on measures against accidental release, transport and disposal of waste.

13. Disposal considerations

13.1 Waste treatment methods

This product is transported in pressure receptacles, returning to manufacturers properly secured with the remnants of any unused product. Ensure all outlets are secure and replace the protective cap. Products and wastes should not be mixed with sewage, above ground, underground and drinking water, they should be disposed of in accordance with official regulations. Waste product or product impregnated material should be disposed of by incineration in an appropriate licensed facility. Releasing the product and its wastes to the environment can cause soil and water pollution. Do not dispose of the product without checking the relevant waste regulations. Until the containers are cleaned and / or destroyed, follow all the rules stated on the label. Waste classification should be made to be specific to the industry and processes according to EWC. It should not be left to waterways. See section 6.2.

13.2 Legal provisions regarding waste management:

Products and wastes should not be mixed with sewage, above ground, underground and drinking water and should be disposed of in accordance with official regulations.

14. Transport information

14.1 UN Number (ADR/RID, IMDG, IATA)⁶

UN 1397



14.2 UN Proper Shipping Name

ALUMINIUM PHOSPHIDE ,4.3,I (E)

14.3 Transport Hazard Class(es)

4.3

14.4 Packing Group

-

14.5 Environmental Hazards

No data available

14.9 Special Precautions For User

Not applicable

14.10 Transport In Bulk According to Annex II of Marpol and the IBC Code

No data available

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

"European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)"

15.2 Chemical safety assessment

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Not executed

15.2.1 Hazard

CLP classification according to Annex VI of CLP (Regulation (EC) No 1272/2008)

Water-react. 1; H260

Acute Tox. 2 (Inhalation); H330

Aquatic Acute 1; H400

16. Other information

16.1 Reason for revision

Compiling according to Regulation (EC) No 1272/2008

16.2 Relevant hazard statements mentioned in section 3

H260 In contact with water releases flammable gases which may ignite spontaneously.

H330 Fatal if inhaled.

H400 Very toxic to aquatic life.

16.3 Recommendations for the safe use of the substance / preparation

Abbreviations and acronyms that is used in the safety data sheet

Please look through to the endnotes

Safety Data Sheet prepared by **Sandhya Organic Chemicals pvt. Ltd.** relevant local / national regulations and the information presented by us in this document prepared with our current experience regarding the use of the product is based on our best available knowledge, experience and beliefs.

The aim is to provide the safest management of the risks related to the physicochemical, health and environmental risks that may arise during the use, processing, storage, transportation and disposal of the product.

This document is not a substitute for assurance on product properties, unless stated otherwise, it is valid only for the specified product and may not be valid if this product is used in combination with other substances or in any other process.

Contact our sales department for our training and advice on using the product.

¹ CAS: Chemical Abstracts Service.

² EINECS: European Inventory of Existing Commercial Chemical Substances.

³ NTP: (National Toxicology Program) 1

⁴ IARC: (The International Agency for Research on Cancer)

⁵ : (Occupational Safety and Health Association)