



MATERIAL SAFETY DATA SHEET

PRODUCT : ALUMINIUM PHOSPHIDE 57% TB

PRODUCT DESIGNATION : Insecticide and Rodenticide

TRADE NAME : KENGAS

Section 1. Product & Company Identification

Common Name : Aluminium Phosphide

Grade : Formulation

Active Ingredient : Aluminium Phosphide

Chemical Name of Active Ingredient : Aluminium Phosphide
(IUPAC)

Chemical Family of A. I. : Rodenticide

Molecular Formula of A. I. : AlP

Molecular Mass of A. I. : 57.96 g/mol

Manufacturer & Supplier : **M/s PERFECT SOLUTIONS.**

Office Add: B-371, Paschim Vihar, New Delhi
- 110063 (India)

Factory Add: 15/1, 15/2, 15/3 Industrial
Estate, Vidisha - 464001 (M.P)

Telephone Number : +91 8375844625

Section 2. Composition / Information on Ingredients

Identity	CAS RN	% W/W content
Aluminium Phosphide a.i.	20859-73-8	57.00% w/w
Other additives	-	Q. S to make to 100.00%

Section 3. Hazards Identification

Emergency Overview

Warning Statements: Keep out of reach of children

Likely Routs of Exposure : Inhalation and Ingestion

Eye Contact : Not classified as eye irritant

Skin contact : Not classified as skin irritant or sensitize.

Ingestion : Very toxic if swallowed (R28)

Inhalation : Harmful and likely to cause adverse effect by this route



Health Hazard : Dangerous when wet , Contact with moisture / water liberates toxic gas (R29), Contact with acid liberates toxic gas (R32)

Section 4. First Aid Measures

Emergency and First Aid Procedure –

If in Eyes : Immediately flush with plenty of clean water for 15-20 minutes. Remove contact lenses if present after 5 minutes of washing. Get medical attention.

If on Skin : Take out victim to fresh air in open area. Take out clothing, safety shoes, socks, wash with plenty of clean water and soap. Get medical attention. Shake off or brush the contaminated clothing & keep it in open place for some time before washing.

If Inhaled : Take out victim in fresh air, make the person lie down in comfortable position. Keep him quit and warm, if required use blanket. If feel difficulty in breathing give artificial breathing. Do not apply mouth to mouth resuscitation. Get medical attention.

If Swallowed : Immediately offer 1-2 glass drinking water to the person and induce vomiting. Repeat the procedure till vomit fluid is clear. Milk of magnesia (1 ounce) or beaten white of 2-3 eggs may be given. Get medical attention. AVOID GIVING ANYTHING THROUGH MOUTH IF PERSON IS UNCONSCIOUS.

Note to Physician : If patient has swallowed aluminium phosphide he/she may be emitting toxic phosphine gas. First aid & medical staff must take precaution against exposure to phosphine emitted by such patient..Treat symptomatically. Give repeated gastric lavage with 0.1% potassium permanganate solution till the flushing ceases to carbide (garlic). In case of pulmonary edema, give hypertonic glucose solution intravenously.

Antidote : No antidote known

Section 5. Fire Fighting Measures

Hazardous product of Combustion : Aluminium phosphide as such is not flammable, however in contact with moisture / water releases poisonous gas phosphine, which is flammable.

Extinguishing Media : Suffocate fire with dry sand, clay, Dry chemical powder or CO₂. DO NOT USE WATER. Do not confine the spent or partially spent aluminium phosphide fumigant dust, slow release of phosphine may leads to formation of explosive mixture with air.



Fire Fighting Equipment : Fire fighters must use self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance. Approach from upwind to avoid hazardous vapours and decomposition products. Used equipments should be thoroughly decontaminated.

Section 6. Accidental Release Measures

Personal Protection : Observe all protection and safety precautions. Depending on the magnitude of the spill, use of eye protection, gloves and boots when cleaning up spills are recommended. For PPE see Section 8

Steps to be taken in case of a spill : It is recommended to have a predetermined plan / SOP for the handling of spills. Stop the source of the spill immediately, if safe to do so. Apply aluminium tape to leaking point. Contain the spill to prevent any further contamination of soil or atmosphere. Dispose of spilled aluminium phosphide according to label instructions.

Keep all bystanders away. Wear full-length clothing and PVC gloves. Shovel, Use self-contained breathing apparatus and collect the spilled material / contaminated absorbent and place in suitable containers. Thoroughly scrub the floor or other impervious surfaces with a strong industrial detergent and rinse with water. If practical, use local mechanical exhaust ventilation at sources of exposure especially to speed the aeration of silos, warehouses, ship holds, containers, etc

Spills in water: Evacuate the area, cordon and isolate the contaminated water. Intimate the local authority nearby area not to use the water.

Section 7. Handling & Storage

Precautions in Handling : In an industrial environment, such as while making formulation, filling or packing, it is recommended to avoid physical contact with the product and to have adequate ventilation.

Avoid spillage into the eyes, or contact with bare skin or clothing. Avoid inhaling vapours. Wash hands, feet, face thoroughly after handling. Remove contaminated clothing immediately. Avoid breathing gas from tablets or the dust rising from treated grain. Hydrogen phosphide in the head space of containers may flash upon exposure to atmospheric oxygen. When opening, point the container away from the face and body. These precautions will also reduce the risk of exposure to hydrogen phosphide gas.



Precautions in Storage : The product is stable under normal conditions of warehouse storage. Keep container lids tightly closed. Always store Celphos under lock and key in a dry, well-ventilated area away from heat. Label clearly as a pesticide storage area. Do not store in buildings inhabited by humans or animals Do not allow water or other liquids to contact. Do not pile up large quantities during fumigation or disposal. Open containers only in open place. Do not open in flammable atmosphere. Preferably use up contents of a container at one time. Do not expose the product to atmospheric moisture.



Specific Use : The product is meant / approved to be used as fumigant.

Section 8. Exposure Control, Personal Protection

Personal Protection : When used in a closed / automated system, personal protection equipment may not be required. When closed system is not possible in case of manual handling, sampling, maintenance, repair, sampling etc, use suitable PPE.

Protective Gloves : Use cotton gloves

Eye Protection : Wear goggles, face shield or safety glasses. It is recommended to have an eye wash fountain available in the work area.

Skin Protection : Wear appropriate protective clothing to prevent direct skin contact

Section 9. Physical and Chemical Properties

Appearance / state	:	Dark grey-green or yellowish circle tablet
Odour	:	Garlic or Carbide odor
Melting point	:	>1000
Vapour pressure	:	3. 4.x 10 ⁹ mPa at 20°C
pH	:	5.0 ~ 9.0
Density	:	1.146 at 20 °C
Flash Point	:	Not required because this product is tablet.



Section 10. Stability & Reactivity

Chemical Stability : Product is stable under ambient conditions of storage. The shelf life is virtually unlimited if the containers are tightly sealed.

Materials to Avoid: Avoid contact with water and other oxidizing agents. Hydrogen phosphide gas may react with certain metals (gold, silver, brass, other precious metals and their alloys) and cause corrosion especially at higher temperatures and relative humidity.

Hazardous Decomposition Product: Refer to section no. 5

Hazardous Polymerization: Not known.

Section 11. Toxicological Information

Acute Oral toxicity : LD50 rat: 25 mg/kg

Dermal toxicity : LD50 rat: > 2000 mg/kg

Inhalation toxicity : LC50 (4 h) rat: <0.5 mg/L

Skin irritation : Not irritating to rabbits

Eye irritation : Highly irritating to rabbits

Sensitization : Non sensitizer

Section 12. Ecological Information

Acute Oral Toxicity in Birds: Coturnix japonica- LD50 (mg kg⁻¹): 49, high toxicity

Acute Toxicity Honey bees: 48 hour LD50 (µg bee⁻¹): 0.24; High toxicity to bees.

Acute Toxicity Fish - Oncorhynchus mykiss, as PH3 Acute 96 hour LC50 (mg l⁻¹): 0.0097; high toxicity.

Section 13. Disposal Consideration

Disposal Methods and Containers: Dispose according to applicable local and state government regulations.

Special Precautions for Landfill or Incineration: Please consult your state Land Waste Management Authority for more information.



Section 14. Transport Information

IMDG Classification

Shipping name : ALUMINIUM PHOSPHIDE PESTICIDE (ALUMINIUM PHOSPHIDE), MARINE POLLUTANT

Class : 6.1

Packing group : I

UN number : 3048

Marine pollutant : Yes

Section 15. Regulatory Information

Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) - Poison Schedule:

Poisons Schedule: 7

Section 16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are resented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS. Accordingly, no guarantee or warrantee expressed or implied is made by PERFECT SOLUTIONS., as to the results to be obtained based upon the user's use of the information, nor does PERFECT SOLUTIONS., assume any liability arising out of user's use of the information.

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