

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: Phenylarsine Oxide
CAS-No.	: 637-03-6
Product code	: LC18335
Formula	: C ₆ H ₅ AsO
Synonyms	: arsenosobenzene / oxophenylarsine

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Laboratory chemical Chemical substance for research Insecticide Acaricide
Recommended use	: Laboratory chemicals
Restrictions on use	: Not for food, drug or household use

1.3. Supplier

LabChem, Inc.
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

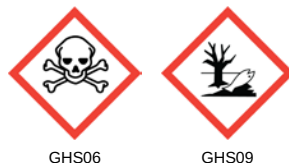
Acute toxicity (oral) Category 3	H301	Toxic if swallowed
Acute toxicity (inhalation) Category 3	H331	Toxic if inhaled
Hazardous to the aquatic environment - Acute Hazard Category 1	H400	Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 1	H410	Very toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



GHS06

GHS09

Signal word (GHS US)	: Danger
Hazard statements (GHS US)	: H301+H331 - Toxic if swallowed or if inhaled H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (GHS US)	: P261 - Avoid breathing dust. P264 - Wash exposed skin 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. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P311 - Call a POISON CENTER or doctor/physician.
P330 - If swallowed, rinse mouth.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Phenylarsine Oxide (Main constituent)	(CAS-No.) 637-03-6	100	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Inhalation), H331 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation : Remove the victim into fresh air. Immediately consult a doctor/medical service.

First-aid measures after skin contact : Rinse with water. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents.

First-aid measures after ingestion : Rinse mouth with water. Give nothing to drink. Victim is fully conscious: immediately induce vomiting. Induce vomiting by giving a 0.9 % saline solution. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Respiratory difficulties. Coughing. Headache. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.

Symptoms/effects after skin contact : ON CONTINUOUS EXPOSURE/CONTACT: Skin rash/inflammation.

Symptoms/effects after eye contact : Irritation of the eye tissue.

Symptoms/effects after ingestion : Nausea. Vomiting. Diarrhoea. Enlargement/disease of the liver.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Feeling of weakness. Loss of weight. Gastrointestinal complaints.

4.3. Immediate medical attention and special treatment, if necessary

Hospitalize at once.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Class A foam extinguisher. Water (quick-acting extinguisher, reel). Water. Class A foam.

Unsuitable extinguishing media : Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD. Most organic solids may burn if strongly heated.

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Explosion hazard	: DIRECT EXPLOSION HAZARD. Most organic solids are liable to dust explosion hazard. INDIRECT EXPLOSION HAZARD. Dust cloud can be ignited by a spark.
Reactivity	: Reacts with (strong) oxidizers.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Gloves. Face-shield. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Dust cloud production: dust-tight suit.
Emergency procedures	: Mark the danger area. Prevent dust cloud formation. No naked flames. Wash contaminated clothes.
Measures in case of dust release	: In case of dust production: keep upwind. In case of dust production: consider evacuation. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders

Protective equipment	: Do not breathe dust. Equip cleanup crew with proper protection.
Emergency procedures	: If a major spill occurs, all personnel should be immediately evacuated and the area ventilated. Stop release. Ventilate area.

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment	: Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. Take account of toxic/corrosive precipitation water.
Methods for cleaning up	: Prevent dust cloud formation. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Pulverization rapidly increases toxic concentration.
Precautions for safe handling	: Avoid raising dust. Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Powdered form: no compressed air for pumping over. Keep container tightly closed.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage temperature	: < 20 °C
Heat-ignition	: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Prohibitions on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents.
Storage area	: Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Unauthorized persons are not admitted. Meet the legal requirements.
Special rules on packaging	: SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Phenylarsine Oxide (637-03-6)		
ACGIH	ACGIH TWA (mg/m ³)	0.01 mg/m ³
NIOSH	NIOSH REL (ceiling) (mg/m ³)	0.002 mg/m ³

8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gas mask. Gloves. Safety glasses. Dust production: dust mask with filter type P3.



Hand protection:

Gloves

Eye protection:

Face shield. In case of dust production: protective goggles

Skin and body protection:

Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

Respiratory protection:

Dust production: dust mask with filter type P3.
High dust production: self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Crystalline powder.
	: White to off-white
	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: 145 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: Not applicable
Relative density	: No data available
Molecular mass	: 168.03 g/mol
Solubility	: Insoluble in water. Soluble in chloroform. Soluble in dimethyl sulfoxide. Water: insoluble, Literature
Log Pow	: 2.44

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Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

VOC content	: 0 %
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with (strong) oxidizers.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not available.

10.4. Conditions to avoid

Incompatible materials.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Arsenic and its oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Skin and eye contact; Inhalation

Acute toxicity : Not classified

Phenylarsine Oxide (637-03-6)	
ATE US (oral)	100 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Toxic if swallowed. Toxic if inhaled.

Symptoms/effects after inhalation : Respiratory difficulties. Coughing. Headache. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.

Symptoms/effects after skin contact : ON CONTINUOUS EXPOSURE/CONTACT: Skin rash/inflammation.

Symptoms/effects after eye contact : Irritation of the eye tissue.

Symptoms/effects after ingestion : Nausea. Vomiting. Diarrhoea. Enlargement/disease of the liver.

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Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Feeling of weakness. Loss of weight. Gastrointestinal complaints.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Dangerous for the environment.
Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water : Very toxic to aquatic organisms. Severe water pollutant (surface water).

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LC50 fish 1	1.1 mg/l
EC50 other aquatic organisms 1	0.44 mg/l Algae

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Phenylarsine Oxide (637-03-6)

Log Pow	2.44
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Dissolve or mix with a combustible solvent.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN3465 Organoarsenic compound, solid, n.o.s., 6.1, II

UN-No.(DOT) : UN3465

Proper Shipping Name (DOT) : Organoarsenic compound, solid, n.o.s.

Transport hazard class(es) (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132

Packing group (DOT) : II - Medium Danger

Hazard labels (DOT) : 6.1 - Poison



Dangerous for the environment : Yes

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Marine pollutant : Yes



DOT Packaging Non Bulk (49 CFR 173.xxx) : 212
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Symbols : G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102) : IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).
IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle.
IP4 - Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner.
T3 - 2.65 178.274(d)(2) Normal..... 178.275(d)(2)
TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx) : 153
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 25 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 200 kg
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Other information : No supplementary information available.

Transport by sea

Transport document description (IMDG) : UN 3465 organoarsenic compound, solid, n.o.s. (Phenylarsine oxide), 6.1, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
UN-No. (IMDG) : 3465
Proper Shipping Name (IMDG) : organoarsenic compound, solid, n.o.s.
Class (IMDG) : 6.1 - Toxic substances
Packing group (IMDG) : II - substances presenting medium danger
EmS-No. (1) : F-A
EmS-No. (2) : S-A
Marine pollutant : Yes



Air transport

Transport document description (IATA) : UN 3465 Organoarsenic compound, solid, n.o.s. (Phenylarsine oxide), 6.1, II, ENVIRONMENTALLY HAZARDOUS
UN-No. (IATA) : 3465
Proper Shipping Name (IATA) : Organoarsenic compound, solid, n.o.s.
Class (IATA) : 6.1 - Toxic Substances

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Packing group (IATA)

: II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Phenylarsine Oxide (637-03-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes

Health hazard - Acute toxicity (any route of exposure)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date

: 03/13/2019

Full text of H-phrases: see section 16:

H301	Toxic if swallowed
H331	Toxic if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard

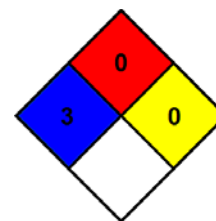
: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health

: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability

: 0 Minimal Hazard - Materials that will not burn

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection

: F

F - Safety glasses, Gloves, Synthetic apron, Dust respirator

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