

CAS No: 7784-42-1  
 RTECS No: CG6475000  
 UN No: 2188  
 EC No: 033-006-00-7

Arsenic trihydride  
 Hydrogen arsenide  
 Arsenic hydride  
 (cylinder)  
 AsH<sub>3</sub>  
 Molecular mass: 77.9

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
<b>FIRE</b>	Extremely flammable. Explosive.	NO open flames, NO sparks, and NO smoking.	Shut off supply; if not possible and no risk to surroundings, let the fire burn itself out; in other cases extinguish with powder, carbon dioxide.
<b>EXPLOSION</b>	Gas/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding) if in liquid state. Do NOT expose to friction or shock.	In case of fire: keep cylinder cool by spraying with water. Combat fire from a sheltered position.

EXPOSURE		AVOID ALL CONTACT!	IN ALL CASES CONSULT A DOCTOR!
<b>Inhalation</b>	Abdominal pain. Confusion. Dizziness. Headache. Nausea. Shortness of breath. Vomiting. Weakness. Symptoms may be delayed (see Notes).	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
<b>Skin</b>	ON CONTACT WITH LIQUID: FROSTBITE.	Cold-insulating gloves. Protective clothing.	ON FROSTBITE: rinse with plenty of water, do NOT remove clothes. Refer for medical attention.
<b>Eyes</b>	ON CONTACT WITH LIQUID: FROSTBITE.	Face shield, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>		Do not eat, drink, or smoke during work.	

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Remove all ignition sources. Close cylinder or remove to open and safe place. If in liquid state: do NOT wash away into sewer. NEVER direct water jet on liquid. Do NOT let this chemical enter the environment. Gas-tight chemical protection suit including self-contained breathing apparatus.	<b>EU classification</b> F+ Symbol T+ Symbol N Symbol R: 12-26-48/20-50/53 S: (1/2-)9-16-28-33-36/37-45-60-61 <b>UN classification</b> UN Hazard Class: 2.3 UN Subsidiary Risks: 2.1

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-20G2TF NFPA Code: H 4; F 4; R 2	Fireproof if in building. Cool. Ventilation along the floor.

### IMPORTANT DATA

**Physical State; Appearance**

COLOURLESS COMPRESSED LIQUEFIED GAS, WITH CHARACTERISTIC ODOUR.

**Physical dangers**

The gas is heavier than air and may travel along the ground; distant ignition possible. As a result of flow, agitation, etc., electrostatic charges can be generated.

**Chemical dangers**

The substance decomposes on heating and under the influence of light and moisture producing toxic arsenic fumes. Reacts with strong oxidants, causing explosion hazard. May explosively decompose on shock, friction, or concussion.

**Occupational exposure limits**

TLV: 0.05 ppm as TWA; Intended change ( TLV: 0.005 ppm A4 (not classifiable as a human carcinogen);) (ACGIH 2005).  
MAK: IIb (not established but data is available) (DFG 2007).

**Routes of exposure**

The substance can be absorbed into the body by inhalation.

**Inhalation risk**

A harmful concentration of this gas in the air will be reached very quickly on loss of containment.

**Effects of short-term exposure**

Rapid evaporation of the liquid may cause frostbite. The substance may cause effects on the blood, resulting in destruction of blood cells and kidney failure. The effects may be delayed. Exposure may result in death. Medical observation is indicated.

**Effects of long-term or repeated exposure**

This substance is carcinogenic to humans.

### PHYSICAL PROPERTIES

Boiling point: -62/C  
Melting point: -116/C  
Solubility in water, ml/100 ml at 20/C: 20  
Vapour pressure, kPa at 20/C: 1043

Relative vapour density (air = 1): 2.7  
Flash point: Flammable Gas  
Explosive limits, vol% in air: 4.5-78

### ENVIRONMENTAL DATA

It is strongly advised that this substance does not enter the environment.

### NOTES

The symptoms of poisoning do not become manifest until a few hours or even a few days have passed. Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state. Also consult ICSC 0013 Arsenic. Card has been partly updated in October 2005. See sections Occupational Exposure Limits, Emergency Response.

### ADDITIONAL INFORMATION

**LEGAL NOTICE**

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information