

TETRAETHYL LEAD

0008

November 2003

CAS No: 78-00-2
RTECS No: TP4550000
UN No: 1649
EC No: 082-002-00-1

Tetraethyl plumbane
 Lead tetraethyl
 TEL
 $Pb(C_2H_5)_4$
 Molecular mass: 323.45

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Powder, water spray, foam, carbon dioxide.
EXPLOSION	Above 93/C explosive vapour/air mixtures may be formed.	Above 93/C use a closed system, ventilation.	Combat fire out of sheltered position.

EXPOSURE		PREVENT GENERATION OF MISTS! STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!	IN ALL CASES CONSULT A DOCTOR!
Inhalation	Convulsions. Dizziness. Headache. Vomiting. Weakness. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	MAY BE ABSORBED! Redness. (Further see Inhalation).	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
Eyes	Redness. Pain. Blurred vision.	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.
Ingestion	Convulsions. Diarrhoea. Dizziness. Headache. Vomiting. Weakness. Unconsciousness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Give a slurry of activated charcoal in water to drink. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Ventilation. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place. (Extra personal protection: complete protective clothing including self-contained breathing apparatus.) Do NOT let this chemical enter the environment.	<p>EU classification T+ Symbol N Symbol R: 61-26/27/28-33-50/53-62 S: 53-45-60-61 Note: A, E, for preparations: Note 1</p> <p>UN classification UN Hazard Class: 6.1 UN Pack Group: I</p>

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-61S1649 NFPA Code: H3; F2; R3	Fireproof. Separated from strong oxidants, acids. Keep in the dark. Ventilation along the floor. Store in an area without drain or sewer access.



IMPORTANT DATA

Physical State; Appearance

COLOURLESS VISCOUS LIQUID, WITH CHARACTERISTIC ODOUR.

Physical dangers

The vapour is heavier than air.

Chemical dangers

The substance decomposes on heating producing toxic fumes. Reacts violently with strong oxidants, acids, halogens causing fire and explosion hazard. Attacks rubber, some forms of plastic and coating.

Occupational exposure limits

TLV: (as lead) 0.1 mg/m³; (skin); A4; (ACGIH 2003).
MAK: (as lead) 0.05 mg/m³; skin absorption (H); Peak limitation category: II(2); Pregnancy risk group: D; (DFG 2007).

Routes of exposure

The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

Inhalation risk

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20/C.

Effects of short-term exposure

The substance is irritating to the eyes, the skin and the respiratory tract. The substance may cause effects on the central nervous system, resulting in unconsciousness. Exposure at high levels may result in death. Medical observation is indicated.

Effects of long-term or repeated exposure

The substance may have effects on the central nervous system. May cause toxicity to human reproduction or development.

PHYSICAL PROPERTIES

Decomposes at >110 /C
Melting point: -136.8/C
Relative density (water = 1): 1.7
Solubility in water: very poor
Vapour pressure, kPa at 20/C: 0.027
Relative vapour density (air = 1): 8.6

Relative density of the vapour/air-mixture at 20/C (air = 1): 1.00
Flash point: 93/C c.c.
Auto-ignition temperature: above 110/C
Explosive limits, vol% in air: 1.8-?
Octanol/water partition coefficient as log Pow: 4.15

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment. It is strongly advised that this substance does not enter the environment.

NOTES

Tetraethyl lead used as an anti-knock compound in gasoline also contains ethylene dibromide and ethylene dichloride as impurities. Depending on the degree of exposure, periodic medical examination is suggested. The relation between odour and the occupational exposure limit cannot be indicated. Do NOT take working clothes home. Card has been partially updated in January 2008: see Storage, Physical Properties.

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