

## MATERIAL SAFETY DATA SHEET

### TRIPHENYLPHOSPHINE

#### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**MSDS Name : TRIPHENYLPHOSPHINE**

Synonyms : Triphenylphosphane; Triphenylphosphorus

Company Identification:

Alkali Metals Ltd.,

Plot B-5, Block III, IDA Uppal

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#### SECTION – 2 COMPOSITION, INFORMATION ON INGREDIENTS

CAS No.	Chemical Name
603-35-0	Triphenylphosphine

Hazard Symbols : XN N

Risk Phrases : 22 43 53

#### SECTION – 3 HAZARDS IDENTIFICATION

##### Emergency overview

Harmful if swallowed. May cause sensitization by skin contact. May cause long term adverse effects in the aquatic environment.

##### Potential Health Effects

Eyes May cause eye irritation.

Skin May cause skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May be harmful if absorbed through the skin.

Ingestion Harmful if swallowed. May cause irritation of the digestive tract. May cause effects similar to those for inhalation exposure.

Inhalation May cause respiratory tract irritation. May cause neurotoxic effects including paresthesia.

#### SECTION – 4 FIRST AID MEASURES

Eyes Flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin Get medical aid. Flush skin with plenty of water while removing contaminated clothing and shoes.

Ingestion Get medical aid. Wash mouth out with water.

Inhalation Get medical aid. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen.

Notes to Physician Treat symptomatically and supportively.

Physician

## SECTION – 5 FIRE FIGHTING MEASURES

General information	As in case of any fire, use a self-contained breathing apparatus and full protective gear.
Extinguishing media	In-case of fire, use water spray, dry chemical, Carbon dioxide, or chemical foam.

## SECTION – 6 ACCIDENTAL RELEASE MEASURES

General information	Use proper personal protective equipment.
Spills/leaks	Vacuum or sweep up material and place in to a suitable disposal container. Avoid runoff into storm sewers and ditches which lead to waterways. Avoid generating dusty conditions.

## SECTION – 7 HANDLING AND STORAGE

Handling	Avoid breathing dust, vapour, mist, or gas. Avoid contact with skin and eyes.
Storage	Store in a cool, dry place. Store in a tightly closed container.

## SECTION – 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering controls	Facilities storing or utilizing this material should be equipped with an eye wash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits	Not available.

### Personal protective equipment

Eyes	Wear chemical splash goggles.
Skin	Wear appropriate protective gloves to prevent skin exposure.
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Respirators	Wear appropriate respirators where necessary.

## SECTION – 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Powder / Flakes
Appearance	White to light yellow
Odor	Characteristic odor
pH	Not available
Vapor pressure	5mm Hg @20°C
Viscosity	Not available
Boiling point	377°C @760mm Hg (710.6°F)
Freezing / melting point	78 – 82°C
Autoignition temp.	Not available
Flash Point	181°C (357.8°F)
Explosion limits	Lower Not available Upper Not available
Decomposition temp.	Not available
Solubility in water	Insoluble
Specific gravity/density	--
Molecular Formula	C <sub>18</sub> H <sub>15</sub> P
Molecular Weight	262.28

## SECTION – 10 STABILITY AND REACTIVITY

Chemical stability	Not available
Conditions to avoid	Incompatible materials.
Incompatible with other materials	Oxidizing agents, acids.
Hazardous decomposition products	Phosphine, carbon monoxide, carbon dioxide, Oxides of Phosphorus
Hazardous polymerisation	Not available

## SECTION – 11 TOXICOLOGICAL INFORMATION

RTECS #	CAS No # 603-35-0 : SZ 3500000
LD50/LC50	RTCES CAS# 603-35-0 : Draize test, rabbit, eye : 500 mg/24H Mild; Draize test, rabbit , skin : 500 mg / 24 H Mild; Inhalation, rat : LC50 = 1135 ppm / 4 H ; Oral, mouse, LD50 = 1 gm / kg ; Oral, rat : LD50 = 700 mg / kg ; Skin, rabbit : LD50 = > 5 gm / kg ; Other : Inhalation, rat : LC50 = 12 mg / l / 4 H
Carcinogenicity	Triphenylphosphine - Not listed as a carcinogen by ACGIH, IARC, NTP.

## SECTION – 12 ECOLOGICAL INFORMATION

Ecotoxicity	Fish : Leuciscus idus : LC50 : > 10 g / l ; 96 H ; Daphnia : EC50 : > 5 mg / l ; 48 H ; Bacteria : Pseudomonas putida : EC50 : > 10 g / l ; 0.5 H ;
Other	Avoid entering into waters or underground water. Not readily biodegradable. Log Pow : 2,587 – 4,5

## SECTION – 13 DISPOSABLE CONSIDERATION

Dispose of in a manner consistent with federal, state and local regulations.

## SECTION – 14 TRANSPORT INFORMATION

	IATA	IMO	RID/ADR
Shipping Name	Not available	Not available	Not available
Hazard Class	--	--	--
UN Number	--	--	--
Packing group	--	--	--

## SECTION – 15 REGULATORY INFORMATION

### European / International Regulations:-

European Labelling in Accordance with EC Directives

**Hazard Symbols** : XN

**Risk Phrases** :

R 22 Harmful if swallowed.

R 43 May cause sensitisation by skin contact.

R 53 May cause long-term adverse effects in the aquatic environment.

**Safety Phrases** :

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36 / 37 / 39 Wear suitable protective clothing, gloves and eye / face protection.

### WGK (Water Danger/Protection)

CAS# 603-35-0 : 1

### Canada

CAS# 603-35-0 is listed on Canada's DSL list.

### US FEDERAL

TSCA : CAS# 603-35-0 is listed on the TSCA inventory.

## SECTION – 16 ADDITIONAL INFORMATION

The above information is believed to be accurate and represents the best information currently available with us. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Alkali Metals Ltd., be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Alkali Metals Ltd., has been advised of the possibility of such damages.