



## MATERIAL SAFETY DATA SHEET

### 1. Product and Company information

<b>Product name:</b> LS168-PH4
<b>Recommended use and restrictions on use:</b> Semiconductor
<b>Manufacturer/Supplier/Distributor information</b> <b>*Manufacturer:</b> GTA Material Co., Ltd. 9F., No.788, Zhongzheng Rd., Zhonghe Dist., New Taipei City 235, Taiwan 02-32340086/02-32340017 <b>*Emergency response number:</b> 02-32340086

### 2. Hazards identification information

<b>Hazard classification of the product:</b> 1.Acute toxicity, oral: Category 5 2.Serious eye damage/eye irritation: Category 2A 3.Skin irritation: Category 3 4.Reproductive toxic level 2
<b>Label content:</b>
Label Format:  
Signal words: Warning
<b>Hazard statements:</b> 1.May be harmful if swallowed. 2.Causes eye irritation. 3.Causes skin irritation. 4.Suspected to harm fertility
<b>Precautionary statements:</b> 1.Keep the container closed. 2.Use personal protective equipment as required. 3.Store at room temperature and well-ventilation.

4. IF IN EYES: Rinse cautiously with water for 10~15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

5. IF ON SKIN: Wash with plenty of soap and water.

Other hazards: Not available.

### 3. Ingredients identification information

English names of ingredients	Concentration or concentration ranges (% of contents)	CAS No.
Polyvinyl alcohol	1~20%	9002-89-5
Propylene glycol monomethyl ether	1~20%	107-98-2
Water	45~95%	7732-18-5
Additive	0.1~10%	—

### 4. First-aid Measures

**The first-aid measures for different exposure routes:**

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing unstable or stop: take CPR or first-aid measures.

Skin contact: Wash with plenty of soap and water.

Eye contact: Remove contact lenses, keep eyelids open. Flush with plenty of water at least 15 minutes. Get medical advice

Ingestion: Do NOT induce vomiting. Keep stable. Get medical advice.

**The most important symptoms and hazardous effects:** Not available.

**The protection of first-aiders:** Not available.

**Notes to physicians:** Not available.

### 5. Fire Fighting Measures

**Suitable fire extinguishing media:** Foam, CO<sub>2</sub>, dry chemical powder extinguisher.

**Special protective equipment:** When sprayed, water should be effective for cooling and protection of the fire fighters. However, use of water may expand the fire.

**Special protective equipment and precautions for fire fighters:** Fire fighters should wear proper protective clothing.

## 6. Accidental release measures

### Personal precautions:

1. Evacuate the leeward personnel.
2. Wear respiratory protection.
3. Use personal protective (Ex. Protective clothing and shoes, etc.).
4. Wear chemical protective clothing.

### Environmental precautions:

1. Air extractor and partial ventilator. Be careful that the product is not present at a concentration level above TLV and LEL.
2. Avoid release to the environment.

### Methods and materials for containment and cleaning up:

Wash with clean water. When spill may cause slip.

Waste treated device: Dumping to the government-approved waste handling equipment, such as sewage treatment sewer.

## 7. Safe handling and storage measures

### Handling:

Wear proper protective tools, such as mask, gloves and eye protection.

Store in a well-ventilated place.

### Storage:

Keep container tightly close, and voice overflow (spill).

Store in a well-ventilated place, keep dry.

## 8. Exposure controls measures

**Engineering controls:** used in closed or well-ventilated place.

### Exposure Limits:

Propylene Glycol Mono-methyl Ether: TWA: 100 ppm, STEL: 150 ppm from ACGIH (TLV).

### Personal Protection:

**Respiratory protection:** Chemical cartridge respirator with cartridge to protect against the organic vapor. Airline respirator.

**Eye protection:** Splash goggles.

**Hand protection:** Gloves and clothing to cover the whole body.

**Skin and body protection:** Gloves and clothing to cover the whole body.

**Sanitary measures:** After used, need wash hands.

## 9. Physical and chemical properties

**Appearance (physical state, color etc):** Clear and colorless liquid.

**Odor:** Slight special odor.

**pH:** 2.5~4.5

**Flash point:** This product is determined to have “no flash point”, however, it may turn inflammable when “water” evaporates.

**Initial boiling point and boiling range:** N/A

**Specific gravity:** 1.03±0.01

**Solubility in water:** Soluble.

## 10. Stability and reactivity

**Chemical stability:** Stable.

**Possibility of hazardous reactivity:** Not available.

**Conditions to avoid:** away fire point, avoid overheating.

**Incompatible materials:** Oxidant, reductant.

**Hazardous decomposition products:** Emit carbon monoxide when burned with insufficient oxygen.

## 11. Toxicological information

Only data for each component is available.

**Propylene Glycol Mono-methyl Ether:**

**Exposure route :** skin, inhalation, ingestion, eyes.

**Symptom:** Irritation, headache, nausea, dizziness.

**Acute toxicity:**

**Skin contact:** Do not irritation. Immediately absorb by skin.

**Eye Contact:** Irritation >100 ppm, Lachrymosity > 250 ppm.

**Inhalation:** Irritation eyes, nose, **throat: >100 ppm.** Inhibition of the nervous system, symptoms of headache, nausea, dizziness, sleepiness, physical coordination, loss of function, and even loss of

consciousness.

**Ingestion :** low toxicity, symptom is similar to inhalation.

Oral LD50 (mouse): 6600 mg/kg

Inhalation LC50 (mouse): 15000 ppm/4 hours

Skin(concentration of 5000 ppm)/ open test (rabbit): slight irritation

**Chronic toxicity:** 3000 ppm/6H 6-15 days pregnant mice causes embryonic development

## 12. Ecological information

**Biodegradability toxicity:** Propylene Glycol Mono-methyl Ether

**Ecotoxicity:** LC50 (Fish): >2000 mg/L/ 96H

EC50 (Aquatic Invertebrates)

Department of Health (BCF): ----

**Bio accumulative potential:** Not available

**Mobility in soil:** Not available

**Other adverse effects:** Not available

## 13. Waste disposal measures

**Disposal methods:** Comply with government regulation.

## 14. Transport information

**UN Number:** DOT ID No. (UN No.) : Not available.

**UN Proper Shipping Name:** Not available.

**Transport hazard class(es):** Not available.

**Packing group, if applicable:** Non-hazardous.

**Environmental hazards:** No data available

**Special precautions for user:** No data available

## 15. Regulatory information

Safety, health and environmental regulations specific for the product in question.

Standards of Permissible Exposure Limits of Airborne Hazardous Substances in Workplace.

Regulation of Labelling and Hazard Communication of Dangerous and Harmful Materials.

## 16. Other information



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**References:** Industrial safety regulations of the Ministry of the Interior, Labor Safety and Health Act, Global Harmonized System.

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