



better products for a cleaner environment

# **KLEN 2101**

## **Condenser Coil Brightener**

### **Product Description**

**KLEN 2101** is simple to use and does not need agitation or scrubbing to clean and brighten condenser coils to restore its peak cooling efficiency. **KLEN 2101** works as a descaler for boilers and cooling tower fins and lowers air-conditioning operation costs.

### **Areas of Use**

**KLEN 2101** can be used at air-conditioned repair shops, establishment that services and maintains air-conditioning equipment for systems for apartment, commercial, hospital, Government buildings, factories, etc.

### **Special Features**

- Easy to Use. Requires no agitation or scrubbing.
- Economical. **KLEN 2101** needs no costly labour to scrub coil clean, increases cooling efficiency and lowers air-conditioning operational costs, prolonging equipment life.
- Safe to Use. **KLEN 2101** is non flammable, eliminates fire hazards in storage or use.

### **Directions for Use**

- Dilute **KLEN 2101** at rate 5:3 with water (pour water first).
- Wet condenser coil and fin with water. Apply **KLEN 2101** over the wet area. Allow short period for **KLEN 2101** to break up oily grime and industrial fallout impurities bonded to condenser coil and fins.
- Spray thoroughly with pressure hose, flushing soil clean from coil.
- Rinse all equipment that has come in contact with **KLEN 2101**.  
For heavy built-up, repeat application several times.

### **Precautions**

Avoid ingestion and eye contact. If ingested, do not induce vomiting. Dilute by drinking water and consult physician immediately. If in contact with eyes, flush with cool water for at least 15 minutes and consult a physician immediately. Wash with large amounts of water if in contact with skin and consult physician if irritation persists.

# SAFETY DATA SHEET

## SECTION 1 - IDENTIFICATION

<b>Product Identifier:</b> KLEN 2101	<b>Supplier:</b> Klenco (Singapore) Pte Ltd. <b>Address:</b> 18 Gul Crescent, Singapore 629527 <b>Department:</b> Chemical <b>Person in Charge:</b> Chemist
<b>Other means of identification:</b> Acidic Condenser Coil Brightener	<b>Phone:</b> (65) 6862 3388 <b>Fax:</b> (65) 6861 7575 <b>Email:</b> www.klenco-asia.com <b>Emergency contact:</b> (65) 6862 3388
<b>Date of SDS:</b> 1 January 2014	
<b>Recommended use and restriction on use:</b> KLEN 2101 can be used at air-conditioned repair shops, establishment that services and maintains air-conditioning equipment for systems for apartment, commercial, hospital, Government buildings, factories, etc.	

## SECTION 2 - HAZARDS IDENTIFICATION

**GHS classification:** Acute oral toxicity: Category 3

Skin corrosion: Category 1; Serious eye damage: Category 1

**GHS label elements:** Pictogram:

Signal word: Danger



**Hazard statements:** H301: Toxic if swallowed

H314: Causes skin burns and eye damage

**Precaution statements:** P233: Keep container tightly closed.

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

## SECTION 3 - COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Identification	Component & Composition	Chemical Formula	CAS NO.	EC NO.
Phosphoric acid	< 20.0 %	H <sub>3</sub> PO <sub>4</sub>	7664-38-2	231-633-2
Hydrofluoric Acid	< 2.0 %	HF	7664-39-3	231-634-8
Alkyl diamine oxide	< 2.0 %	C <sub>15</sub> H <sub>33</sub> NO	70592-80-2	274-687-2
Nonyl phenol Ethoxylate	< 2.0 %	C <sub>33</sub> H <sub>60</sub> O <sub>10</sub>	26571-11-9	247-816-5
Water	> 70.0 %	H <sub>2</sub> O	7732-18-5	231-791-2
Blue dye	< 0.01 %	-	NA	NA

## SECTION 4 – FIRST AID MEASURES

**Inhalation:** Move to area of fresh air. If breathing has stopped, artificial respiration should be started. Oxygen may be administered if available. Call a physician. Never give anything by mouth to an unconscious person.

**Skin contact:** Wash with large amounts of soap and water. If irritation persists, consult a physician.

**Eye contact:** Flush with cool water for at least 15 minutes. Then consult a physician immediately.

**Ingestion:** Induce vomiting. Dilute by drinking water. Call a physician immediately.

**Notes to Physicians:** Treatment should be directed at preventing absorption, administering to symptoms (if they occur), and providing supportive therapy.

## SECTION 5 – FIRE-FIGHTING MEASURES

**Suitable fire-extinguishing media:** Water, dry chemical, fog and foam.

**Specific hazards arising from the chemical:** Burning can produce carbon dioxide, carbon monoxide and traces of phosphoric oxides.

**Special protective actions for fire fighters:** Fire fighters may be exposed to the products of combustion should wear a self-contained breathing apparatus with full protective equipment.

## SECTION 6 - ACCIDENTAL RELEASE MEASURE

**Personal precautions, protective equipment, and emergency measure:** Use proper protective equipment (chemical protection suit, gloves, goggles, mask, etc).

**Environmental precautions:** Chemical substance should not be released into the environment (water, soil).

**Methods and materials for containment and cleaning up:** Safely stop discharge. Contain material, as necessary, with dike or barrier. Stop material from contaminating soil or from entering sewers or bodies of water. Provide optimum ventilation. Cover spills with absorbent clay, sawdust, inert material, soda ash, slaked lime and place in closed chemical waste containers. Dispose of according to applicable local, state and federal regulations.

## SECTION 7 - HANDLING AND STORAGE

**Precaution for safe handling:** Wash thoroughly after handling, especially before eating and drinking, Wash contaminated goggles, face-shield, and gloves. Launder contaminated clothing before re-use.

**Conditions for safe storage, including any incompatibilities:** This product is a corrosive liquid. Store in cool, dry, well-ventilated area at room temperature. Keep away from strong alkalis and oxidizing agents especially chlorine releasing agents. Handle all containers carefully. Do not throw or roll on the ground to prevent damage to containers. No other special precautions are needed for this product, as it is a mixture. Follow good manufacturing and handling practices. Do not re-use empty container for food, clothing or products for human or animal consumption or where skin contact can occur.

SECTION 8 - EXPOSURE CONTROLS/ PERSONAL PROTECTION	
Control parameters/ Occupational exposure limits:	ACGIH - TLV: Provide suitable personal protective equipment and/or ventilation to maintain exposure below TLV levels.
Appropriate engineering control measures:	Local exhaust ventilation usually required, when vapours, mist, or dusts can be released.
Personal Protection:	Use the protective equipment such as rubber/PVC gloves; protective glasses.
SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES	
Appearance & Odour:	Clear blue liquid with suffocating odour.
Solubility in water:	Complete.
Boiling Point:	100 °C
Specific Gravity:	1.090 +/- 0.005 g/cm <sup>3</sup>
PH:	2.5 +/- 0.5
Flash Point (T.C.C.):	None to boiling <b>Flammable Limits - Upper:</b> Not applicable <b>Lower:</b> Not applicable
Vapour Pressure:	Not determined
Vapour Density:	Not determined
SECTION 10 - STABILITY AND REACTIVITY	
Reactivity/ In compatible materials:	Strong alkalis and oxidizing materials.
Chemical stability:	Stable under normal temperature and pressure.
Possibility of hazardous reaction:	Will not occur.
Condition to avoid:	Not applicable
SECTION 11 – TOXICOLOGICAL INFORMATION	
Acute toxicity: Oral:	Ingestion of high amount of product is fatal.
Skin or eye irritation:	This product contains acidic material that will cause burns and intense irritation to eyes and/or skin.
SECTION 12 – ECOLOGICAL INFORMATION	
Toxicity:	Concentrations with a pH value of 6.0 or lower especially in fresh water may be fatal to fish and other aquatic organism. Can cause damage to aquatic plants and vegetation.
Persistence and degradability:	Product degrades readily by reaction of carbon dioxide in the air as well as decomposition by microorganism.
Bioaccumulative potential:	It is soluble in water and does not bio-accumulate.
SECTION 13 – DISPOSAL CONSIDERATIONS	
Disposal method:	Dispose off in an approved waste facility according to local regulations. It is recommended that an alternative be selected according to the following order of preference, based upon environmental acceptability: (1) Re-cycle or rework, if feasible (2) Incinerate at an authorized facility (3) Treat at an acceptable waste treatment facility.
SECTION 14 – TRANSPORT INFORMATION	
This material is non-regulated and no special requirement is necessary.	
SECTION 15 – REGULATORY INFORMATION	
International regulation:	
Classification:	This product contains hydrofluoric acid as an ingredient that is classified as corrosive under EC Classification.
Risk phrases:	R28      Very toxic if swallowed R34      Causes burns
Safety phrases:	S07      Keep container tightly closed S18      Handle and open container with care. S50      Do not mix with oxidizing materials
SECTION 16 – OTHER INFORMATION	
Hazard Rating: HMIS (Hazardous Materials Information System)	
HEALTH:	2
FLAMMABILITY:	0
REACTIVITY:	1
0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Extreme	

NOTICE: SDS is correct at date of publication. It is not necessarily fully adequate for every circumstance, nor to be confused with or followed in violation of applicable laws or insurance requirements. Health hazards and effects of over-exposure apply only to negligent handling or misuse of product in its concentrated form (as supplied); and not routine exposure to diluted product under normal use. No warranty, express or implied, of merchantability, fitness or accuracy of data is made; as such the vendor assumes no responsibility for injury or damages resulting from use of this product.