



better products for a cleaner environment

## **KLEN 1104**

### **Rust Remover**

#### **Product Description**

**KLEN 1104** is a powerful rust remover and surface renovator that prepares metal surfaces for refinishing. It is used to treat metal surfaces such as on machinery, tanks, valves, metal sheet, pipes, cooling towers etc. **KLEN 1104** is used in marine, automotive and food processing industries and wherever effects of corrosion must be repaired and corroded surfaces must be refinished.

#### **Special Features**

- Deep penetrating action- **KLEN 1104** penetrates rapidly to cut through grease and rust without pre-cleaning or degreasing. **KLEN 1104** removes rust and microscopically etches the metal surfaces for refinishing.
- Economical- **KLEN 1104** 's highly active formulation saves labour costs.

#### **Directions for Use**

Brush On or Dip Tank Method is recommended.

- For light coating of rust, **KLEN 1104** can be diluted with up to three parts of water. Brush on rusty surface, then rinse with water before surface can be recoated with paint or other finishing.
- For heavily rusted surfaces, use **KLEN 1104** as it is. Repeated brushings may be required for optimal result.
- Dip tank application requires plastic or plastic lined container. **KLEN 1104** can be diluted with three parts of water. Dip all rusty metal into container containing **KLEN 1104** with a basket. Leave for several minutes. Remove metal parts from container and rinse thoroughly with water before painting or recoating.

#### **Precautions**

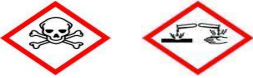
**Corrosive material!** Rubber gloves must be worn when handling product. Avoid skin and eye contact. Wash affected areas thoroughly with plenty of soap and water.

**KLENCO (SINGAPORE) PTE LTD**

18 Gul Crescent, Singapore 629527 • Tel: (65) 6862 3388 • Fax: (65) 6861 7575 • info@klenco-asia.com • www.klenco-asia.com  
Company Registration No: 197100402R

Singapore • China • Malaysia • Thailand • ASEAN • South Asia

# SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION				
<b>Product Identifier:</b> KLEN 1104		<b>Supplier:</b> Klenco (Singapore) Pte Ltd. <b>Address:</b> 18 Gul Crescent, Singapore 629527 <b>Department:</b> Chemical		
<b>Other means of identification:</b> Rust Remover		<b>Person in Charge:</b> Chemist		
<b>Date of SDS:</b> 30 June 2011		<b>Phone:</b> (65) 6862 3388		
<b>Recommended use and restriction on use:</b> <i>KLEN 1104</i> is used in marine, automotive and food processing industries and wherever effects of corrosion must be repaired and corroded surfaces must be refinished.		<b>Fax:</b> (65) 6861 7575 <b>Email:</b> www.klenco-asia.com <b>Emergency contact:</b> (65) 6862 3388		
SECTION 2 - COMPOSITION/ INFORMATION ON INGREDIENTS				
Chemical Identification	Component & Composition	Chemical Formula	CAS NO.	EC NO.
Hydrochloric Acid	< 20.0 %	HCl	7647-01-0	231-595-7
Hydrofluoric Acid	< 7.0 %	HF	7664-39-3	231-634-8
Nonyl phenol Ethoxylate	< 3.0 %	C <sub>15</sub> H <sub>33</sub> NO	70592-80-2	274-687-2
Water	> 70.0 %	H <sub>2</sub> O	7732-18-5	231-791-2
SECTION 3 - HAZARDS IDENTIFICATION				
<b>GHS classification:</b> Acute toxicity: Category 3 Skin corrosion: Category 1; Eye damage: Category 1				
<b>GHS label elements:</b> Pictogram:		<b>Signal word:</b> Danger		
				
<b>Hazard statements:</b> H301: Toxic if swallowed H314: Causes skin burns and eye damage				
<b>Precaution statements:</b> P233: Keep container tightly closed. P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.				
SECTION 4 – FIRST AID MEASURES				
<b>Inhalation:</b> 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.				
<b>Skin contact:</b> Wash with large amounts of soap and water. If irritation persists, consult a physician.				
<b>Eye contact:</b> Flush with cool water for at least 15 minutes. Then consult a physician immediately.				
<b>Ingestion:</b> Induce vomiting. Dilute by drinking water. Call a physician immediately.				
<b>Notes to Physicians:</b> Treatment should be directed at preventing absorption, administering to symptoms (if they occur), and providing supportive therapy.				
SECTION 5 – FIRE-FIGHTING MEASURES				
<b>Suitable fire-extinguishing media:</b> Water, dry chemical, fog and foam.				
<b>Specific hazards arising from the chemical:</b> Burning can produce carbon dioxide, carbon monoxide and possibly irritating fumes.				
<b>Special protective actions for fire fighters:</b> 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				
<b>Personal precautions, protective equipment, and emergency measure:</b> Use proper protective equipment (chemical protection suit, gloves, goggles, mask, etc).				
<b>Environmental precautions:</b> Chemical substance should not be released into the environment (water, soil).				
<b>Methods and materials for containment and cleaning up:</b> 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. Use Soda Ash to cover spillage to prevent run-off. Carbon dioxide will be release upon reaction with spillage. 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				
<b>Precaution for safe handling:</b> 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. Wash thoroughly after handling, especially before eating and drinking, Wash contaminated goggles, face-shield, and gloves. Launder contaminated clothing before re-use.				
<b>Conditions for safe storage, including any incompatibilities:</b> This product is a very corrosive liquid. Store in cool, dry, well-ventilated area at room temperature. Keep away from strong alkalis and oxidizing agents especially chlorine releasing agents. Do not re-use empty container for food, clothing or products for human or animal consumption or where skin contact can occur.				

<b>SECTION 8 - EXPOSURE CONTROLS/ PERSONAL PROTECTION</b>	
<b>Control parameters/ Occupational exposure limits:</b>	<b>ACGIH - TLV:</b> Provide suitable personal protective equipment and/or ventilation to maintain exposure below TLV levels.
<b>Appropriate engineering control measures:</b>	Local exhaust ventilation usually required, when vapours, mist, or dusts can be released.
<b>Personal Protection:</b>	Use the protective equipment such as rubber/PVC gloves; protective glasses if splashing is anticipated.
<b>SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES</b>	
<b>Appearance &amp; Odour:</b>	Brown liquid with Pungent Odour.
<b>Solubility in water:</b>	Complete.
<b>Boiling Point:</b>	100 °C
<b>Specific Gravity:</b>	1.130 +/- 0.005 g/cm <sup>3</sup>
<b>PH:</b>	0.5 +/- 0.5
<b>Flash Point (T.C.C.):</b>	None to boiling <b>Flammable Limits - Upper:</b> Not applicable <b>Lower:</b> Not applicable
<b>Vapour Pressure:</b>	Not determined
<b>Vapour Density:</b>	Not determined
<b>SECTION 10 - STABILITY AND REACTIVITY</b>	
<b>Reactivity/ In compatible materials:</b>	Strong Alkalis and Oxidizing materials.
<b>Chemical stability:</b>	Stable under normal temperature and pressure.
<b>Possibility of hazardous reaction:</b>	Will not occur.
<b>Condition to avoid:</b>	Not applicable
<b>SECTION 11 – TOXICOLOGICAL INFORMATION</b>	
<b>Acute toxicity: Oral:</b>	Ingestion of high amount of product is fatal.
<b>Skin or eye irritation:</b>	This product contains Acidic material that will cause burns and damage to eyes and/or skin.
<b>SECTION 12 – ECOLOGICAL INFORMATION</b>	
<b>Toxicity:</b>	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.
<b>Persistence and degradability:</b>	Product degrades readily by reaction of carbon dioxide in the air as well as decomposition by microorganism.
<b>Bioaccumulative potential:</b>	It is soluble in water and does not bio-accumulate.
<b>SECTION 13 – DISPOSAL CONSIDERATIONS</b>	
<b>Disposal method:</b>	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.
<b>SECTION 14 – TRANSPORT INFORMATION</b>	
This material is non-regulated and no special requirement is necessary.	
<b>SECTION 15 – REGULATORY INFORMATION</b>	
<b>International regulation:</b>	
<b>Classification:</b>	This product contains Hydrochloric Acid as an ingredient that is classified as Corrosive under EC Classification.
<b>Risk phrases:</b>	R28      Very toxic if swallowed R34      Causes burns
<b>Safety phrases:</b>	S07      Keep container tightly closed S18      Handle and open container with care S50      Do not mix with oxidizing materials
<b>SECTION 16 – OTHER INFORMATION</b>	
<b>Hazard Rating: HMIS (Hazardous Materials Information System)</b>	
<b>HEALTH: 2</b>	
<b>FLAMMABILITY: 0</b>	
<b>REACTIVITY: 2</b>	
<b>0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Extreme</b>	

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.