



better products for a cleaner environment

KLEN 897

Heavy Duty Descaler

Product Description

KLEN 897 is a heavy duty acid based rust and scale remover. It is used to remove scale from a wide range of metal equipment & surfaces.

KLEN 897 contains corrosion inhibitors that effectively remove hard scales and metal oxide deposits from surfaces without attacking the base metal itself.

Areas of Use

For use on boilers, condensers, evaporators, heat exchangers, calorifiers, diesel engine cooling systems, air coolers, sea water sides, etc

Special Features

- Corrosion inhibitors for protection of treated surface.
- High concentration for economical and effective performance.

Directions for Use

- Dilute **KLEN 897** with water in portion 1: 5. Duration may vary, general guidelines are:
 - For removing hard scales: 24 to 36 hours
 - De-rusting: 2 to 4 hours
- System should be vented at highest point to release gases produced during descaling.
- Solution may be warmed (not exceeding 40°C) to improve efficiency of descaling process.
- If solution concentration drops to less than ½ of initial concentration, add another portion 1:10.
- Rinse system thoroughly with water and drain completely after cleansing.
- To neutralize remaining traces of acid, add 2-3% solution of **KLEN 1101** to circulate for approximately 2 to 4 hours.

Precautions

Corrosive liquid! A pair of suitable gloves should be worn when using product. Avoid all skin and eye contact. Wash affected areas with plenty of water.

SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION				
Product Identifier: KLEN 897		Supplier: Klenco (Singapore) Pte Ltd. Address: 18 Gul Crescent, Singapore 629527 Department: Chemical Person in Charge: Chemist		
Other means of identification: Heavy Duty Descaler		Phone: (65) 6862 3388		
Date of SDS: 2 July 2018		Fax: (65) 6861 7575 Email: info@klenco-asia.com Emergency contact: (65) 6862 3388 Ext 249		
Recommended use and restriction on use: For use on boilers, condensers, evaporators, heat exchangers, calorifiers, diesel engine cooling systems, air coolers, sea water sides, etc.				
SECTION 2 - HAZARDS IDENTIFICATION				
GHS classification: Acute toxicity: Oral: Category 3; Skin irritation: Category 1; Eye irritation: Category 1				
GHS label elements: Pictogram:		Signal word: Danger		
				
Hazard statements:	H301: Toxic if swallowed H314: Causes skin burns & eye damage			
Precaution statements:	P233: Keep container tightly closed. P280: Wear protective gloves and clothing.			
SECTION 3 - COMPOSITION/ INFORMATION ON INGREDIENTS				
Chemical Identification	Component & Composition	Chemical Formula	CAS NO.	EC NO.
Hydrochloric Acid	< 9.0 %	HCl	7647-01-0	231-595-7
Amine	< 1.0%	Mixture	NA	NA
Water	< 90.0 %	H ₂ O	7732-18-5	231-791-2
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 possibly irritating fumes			
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 - ACCIDENTIAL 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: 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.				
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. 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 if splashing is anticipated.		

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES	
Appearance & Odour:	Light amber liquid with no distinct odour.
Solubility in water:	Complete.
Boiling Point:	100 °C
Specific Gravity:	1.040 +/- 0.01 g/cm ³
PH:	0 to 2.0
Flash Point (T.C.C.):	None to boiling Flammable Limits - Upper: Not applicable Lower: 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. HS Code: 34029019	
SECTION 15 – REGULATORY INFORMATION	
International regulation:	
Classification:	This product contains hydrochloric acid as an ingredient that is classified as Corrosive under 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:	1
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.