Technical Data Sheet

Properties:

AKEMI® Rust Remover is an intensive cleaning agent based on inorganic acids with non-ionic surfactants and rust inhibitors. The product is free from hydrochloric acids. The surfactants contained are biodegradable in correspondence with the legal regulations for surfactants.

Application Area:

AKEMI® Rust Remover is suitable for removing surface rust stains as well as rust stains caused by indwelling rust on acid-resistant natural and artificial stone. Occlusions on natural stone (granite, gneiss) which cause the rust are enveloped thus inhibiting the formation of new rust. AKEMI® Rust Remover is ideal for floor coverings. The use of AKEMI® Rust Remover Paste gel-like is recommended for vertical surfaces as well as for facades and wall coverings.

Instructions for Use:

1. Apply undiluted with a solid brush or spatula to the absolutely dry stone surface. To avoid new rusting on untreated surfaces and changes in colour, apply to the complete stone surface.
2. Allow the product to work for up to 24 hours.
3. Avoid drying of treated surfaces. It is recommended to cover them with a plastic film.
4. Rinse thoroughly with water until any excess of the product has been taken off.
5. Repeat process on dry stone if necessary.
6. After the stone has been successfully treated, it is recommended to protect it with either AKEM® Stone Impregnation of AKEMI® Stain Repellent products in order to prevent watery substances from penetrating into the stone as an additional measure against new rust.

Special Notes:

- Rust Remover damages calcareous stone and must therefore in no case be applied on polished marble, limestone, terrazzo, eloxal and enamel. If in doubt, test on an inconspicuous area.
- Before starting it is recommended to prepare a sample area in order to evaluate the cleaning power and appearance of the treated object and to ascertain the material consumption as exactly as possible.
- Do not allow contact with plants, otherwise rinse immediately with water. Concentrated and diluted solutions must not be emptied in plantations.
- If the product is given a particularly long time to work, it may cause slight colour darkening on some types of stone. This usually disappears if it is washed off intensively several times using a lot of water with AKEMI® Stone Cleaner added.
- For proper waste disposal the container must be completely emptied.

Technical Data:

Coverage:	approx. 10 - 20 m²/litre (if applied purely)
Colour:	yellowish
Density:	approx. 1.20 g/cm³
pH value:	< 1

Storage:

If stored in dry and cool condition (5-25°C/41-77°F) in its closed original container at least 24 months from production.

Health & Safety:

Read Safety Data Sheet before handling or using this product.

AKEMI GmbH · Lechstraße 28 · 90451 Nürnberg · Germany
Tel. +49(0)911-64296-0 · Fax +49(0)911-644456 · www.akemi.com

Technical Data Sheet

Important Notice:

The above information is based on the latest stage of development and application technology. Due to a multiplicity of different influencing factors, this information – as well as other oral or written technical advises – must be considered as non-binding hints. The user is obliged in each particular case to conduct performance tests, including but not limited to trails of the product, in an inconspicuous area or fabrication of a sample piece.

AKEMI GmbH · Lechstraße 28 · 90451 Nürnberg · Germany
Tel. +49(0)911-64296-0 · Fax +49(0)911-644456 · www.akemi.com

Safety Data Sheet

Section 1 - Identification of Chemical Product and Company

TQ Products Pty Ltd
15 Weedon Road
Forrestdale
WA 6112
ACN 149-668-342

24hr Emergency Phone: **13 1126**
Australia Emergency Services: **000**
Phone: business hours **1 300 075 678**

Substance:

Trade Name: **Rust Remover**
Product Use: **Industrial use only**
Creation Date: **July 2021**
Revision Date: **July 2021** and valid for five years

Section 2 - Hazards Identification

Statement of Hazardous Nature
This product is classified as: HAZARDOUS CHEMICAL; DANGEROUS GOOD according to the WHS Regulations and ADG Code.

Poison Schedule Not applicable

Signal Word: **DANGER**

Hazard Classification:

Metallic Corrosivity	Category 1
Acute Oral Toxicity	Category 4
Skin Effects	Category 1B
Eye Effects	Category 1

Hazard Statements:

H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes sever skin burns and eye damage
H413	May cause long lasting harmful effects to aquatic life

Precautionary Statement: Prevention

P234	Keep only in original packaging
P260	Do not breathe mist/ vapour/ spray
P280	Wear protective gloves/ protective clothing/ eye protection and face protection
P264	Wash all exposed external body parts thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment

Precautionary Statement: Response

P301+P3330+P331	IF SWALLOWED: Rinse mouth, Do NOT induce vomiting
P302+P361+P3523	IF ON SKIN: Take off immediately all contaminated clothing. Wash with plenty of soap and water
P363	Wash contaminated clothing before reuse
P333+P313	IF skin irritation or rash occurs: Get medical advice
P035+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313	If eye irritation persists: Get medical advice/ attention

P304+P340	IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing
P310	Immediately call a POISON CENTRE/ Doctor/ physician/ first aider
P390	Absorb spillage to prevent material damage

Precautionary Statement: Storage

P405	Store locked up

Precautionary Statement: Disposal

P501	Dispose of contents/ container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal

Section 3 - Composition/Information on Ingredients

Substances	**CAS No**	**Conc.%**
Phosphoric acid	7664-38-2	25 – 50 %
Alcohols C_{13-15} branched and linear, ethoxylated	157627-86-6	1 – 5 %

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other nonhazardous ingredients are also possible.

Mixtures

See above for composition of substance

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 131126 from anywhere in Australia and is available at all times. Have this SDS or product label with you when you call.

Eye Contact:

Immediately hold eyelids apart and flush the eye continuously with running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact:

Immediately flush body and clothes with large amounts of water, using safety shower if available. Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor.

Inhalation:

Remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay.

Ingestion:

For advice, contact a Poisons Information Centre or a doctor at once. Urgent hospital treatment is likely to be needed. If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Transport to hospital or doctor without delay.

Note to Physician:

Treat symptomatically.
As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

Section 5 - Fire Fighting Measures

Extinguishing Media:

There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.

Fire Incompatibility:

None known

Fire Fighting:

Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use firefighting procedures suitable for surrounding area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards:

Noncombustible. Not considered to be a significant fire risk. Acids may react with metals to produce hydrogen, a highly flammable and explosive gas. Heating may cause expansion or decomposition leading to violent rupture of containers. May emit corrosive, poisonous fumes. May emit acrid smoke.

Fire Decomposition:

Carbon dioxide (CO2) Carbon dioxide (CO2), Phosphorus Oxides (POx) and other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

HAZCHEM 2X

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Refer Section 8

Environmental precautions

Refer Section 12

Minor Spills:

Environmental hazard - contain spillage. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.

Major Spills:

Environmental hazard - contain spillage. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Neutralise/decontaminate residue (see Section 13 for specific agent). Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. After cleanup operations, decontaminate and launder all protective clothing and equipment before storing and re-using. If contamination of drains or waterways occurs, advise emergency services.

Section 7 - Handling and Storage

Handling:

Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Storage:

Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

Suitable container:

DO NOT use aluminium or galvanised containers Lined metal can, lined metal pail/ can. Plastic pail. Polyliner drum. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.

Section 8 - Exposure Controls and Personal Protection

	Australia	
Exposure limits	**TWA (mg/m^3)**	**STEL (mg/m^3)**
Phosphoric acid	1	3

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5-day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Engineering Controls:

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically
"adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.
Employers may need to use multiple types of controls to prevent employee overexposure. For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Eye Protection:

Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure. Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection. Alternatively a gas mask may replace splash goggles and face shields. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel

should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

Skin Protection:

Wear elbow length chemical protective gloves, e.g. Neoprene. Wear safety footwear or safety gumboots, e.g. Rubber

When handling hazardous substances, wear trousers or overalls outside of boots, to avoid spills entering boots. Overalls. P.V.C. apron.

Respirator:

Not normally required. If WES is likely to be exceeded, then a Type E filter of sufficient capacity is recommended

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Yellow fluid
Odour:	Characteristic
Odour threshold:	no data
pH:	< 1
Melting Point:	no data
Boiling Point:	100 °C
Flash point:	not applicable
Flammability:	no data
Evaporation Rate:	> 1 butyl acetate = 1
Lower Explosion Limit:	not applicable
Upper Explosion Limit:	not applicable
Vapour Pressure:	2.3 kPa
Relative Vapour Density:	> 1
Specific Gravity:	1.24 g/cm^3
Water Solubility:	immiscible
Coeff Octanol/water distribution	no data
Auto ignition temp:	no data
Decomposition temp:	material is stable under normal conditions
SADT:	no data available
Dynamic viscosity:	no data
Kinematic viscosity:	11s (DIN53211/4)
Volatiles:	57 %

Section 10 - Stability and Reactivity

Reactivity:

Product is considered stable under normal conditions

Chemical stability:

Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.

Conditions to Avoid:

Refer Section 7

Incompatibilities:

Refer Section 7

Polymerisation:

This product will not undergo polymerisation reactions.

Hazardous Decomposition Products

Refer Section 5

Section 11 - Toxicological Information

Inhaled:

The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness. Inhalation of the vapour may cause choking, coughing, headache, weakness and dizziness, and with long term exposure, fluid accumulation in the lungs and blueness, initially in the fingertips. Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may produce severely toxic effects. Relatively small amounts absorbed from the lungs may prove fatal. High concentrations cause inflamed airways and watery swelling of the lungs with oedema.

Ingestion:

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Ingestion of acidic corrosives may produce burns around and, in the mouth, the throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident.

Skin Contact:

Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

Eye Contact:

Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely. If applied to the eyes, this material causes severe eye damage. Irritation of the eyes may produce a heavy secretion of tears (lachrymation).

Chronic Health Effects:

Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Toxicity *refer ingredients*

	Oral		Dermal		Inhalation	
Product	LD_{50}	>2545 mg/Kg				
Phosphoric acid	LD_{50}	>300 mg/Kg	LD_{50}	>1,260 mg/Kg	LC_{50}	0.026 mg/L 4h

Section 12 - Ecological Information

Toxicity *refer ingredients*

	Fish	Crustacea	Algae
Product			
Phosphoric acid	$LC_{50\ 96hr}$ 67.94 mg/L	$EC_{50\ 48hr}$ >100 mg/L	$EC_{50\ 24hr}$ 77.9 mg/L $NOEC_{\ 96hr}$ <7.5 mg/L

May cause long lasting harmful effects to aquatic life. Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high-water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters. Wastes resulting from use of the product must be disposed of on site or at approved waste sites. DO NOT discharge into sewer or waterways.

	Persistence Water/Soil	Persistence Air	Bioaccumulation	Mobility
Phosphoric acid	HIGH	HIGH	LOW	HIGH

Section 13 - Disposal Considerations

Disposal:

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: Reduction Reuse Recycling Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf-life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. DO NOT allow wash water from cleaning or process equipment to enter drains.
It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
Dispose of by burial in a landfill specifically licensed to accept chemical and / or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material). Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - Transport Information

Labels Required

MARINE POLLUTANT NO
HAZCHEM **2X**

Land Transport ADG

UN Number	**3264**
UN Proper Shipping Name	**CORROSIVE LIQUID, ACIDIC INORGANIC, N.O.S. contains phosphoric acid**
Class	**8**
Subrisk	not applicable
Packing Group	**III**
Environmental Hazard	not applicable

Special Provisions	**223 274**
Limited Quantity	**5L**

Air Transport ICAO-IATA/ DGR

UN Number	**3264**	
UN Proper Shipping Name	**CORROSIVE LIQUID, ACIDIC INORGANIC, N.O.S. contains phosphoric acid**	
ICAO/ IATA Class	**3**	
ICAO/ IATA Subrisk	not applicable	
ERG Code	**8L**	
Packing Group	**III**	
Environmental Hazard	not applicable	
Special Provisions	**A3 A803**	
Cargo Only Packing Instructions	**856**	
Cargo only Max Qty/ Pack	**60 L**	
Passenger/ Cargo Packing Instruction		**852**
Passenger/ Cargo Max Qty/ Pack		**5 L**
Passenger/ Cargo LQ Packing Instruction	**Y841**	
Passenger/ Cargo LQ Qty/ Pack	**1 L**	

Marine Transport IMDG Code /GGVSee

UN Number	**3264**
UN Proper Shipping Name	**CORROSIVE LIQUID, ACIDIC INORGANIC, N.O.S. contains phosphoric acid**
IMDG Class	**8**
IMDG Subrisk	not applicable
Packing Group	**III**
Environmental Hazard	not applicable
EMS Number	**F-A S-B**
Special Provisions	**223 274**
Limited Quantities	**5 L**

Section 15 - Regulatory Information

Safety, health and environmental regulations/ legislation specific for the substance or mixture

International Regulations

Montreal Protocol	Not applicable
Stockholm Convention	Not applicable
Rotterdam Convention	Not applicable
Kyoto Protocol	Not applicable

Inventory Status

Australia	AICS	No
Canada	DSL	No
	NDSL	No
China	IECS	Yes
EU	EINECS	Yes
Japan	ENCS	Yes
Korea	KECI	No
New Zealand	NZIOC	Yes
Philippines	PICCS	No
Taiwan	CSNN	Yes
US	TSCA	Yes
Taiwan	TCSI	Yes
Mexico	INSQ	No
Vietnam	NCI	Yes
Russia	FBEPH	No

Section 16 - Other Information

Revision History

July 2021 origination

This SDS contains only safety-related information. For other data see product literature.

Please read all labels carefully before using product.

Acronyms:

CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially fire-fighters.
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified.
UN Number	United Nations Number

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material in combination with any other material or in any process, unless specified in the text.

This SDS was prepared by Collievale Enterprises Ltd
http://www.collievale.com Phone +64 7 5432428

End of SDS