Technical Data Sheet

Properties:

AKEMI® Rust Remover Marble is an aqueous, slightly alkaline cleaning agent ready-to-use. Converted rust can be removed with clear water.

Application Area:

AKEMI® Rust Remover Marble is best suited for removing superficial rust stains produced by ferrous substances or objects (fertilizers, tools, iron parts etc.) on natural and artificial stone or concrete ashlar being sensitive to acids. AKEMI® Rust Remover Marble is ideal for polished marble or lime stone surfaces already laid or ready to be laid.

Instructions for Use:

1. Ideal temperature of application is 15 - 25°C.
2. Apply undiluted and saturated to the dry surface to be treated.
3. Allow the product to work for 5 - 10 minutes.
4. If necessary support the cleaning process mechanically with a brush or a scrubber.
5. Rinse thoroughly with clear water.
6. Repeat process in case of stubborn rust stains.
7. After the stone has been successfully treated, it is recommended to protect it with either AKEMI® Stone Impregnation or AKEMI® Stain Repellent products in order to prevent watery substances from penetrating into the stone as an additional measure against formation of new rust.

Special Notes:

- Before starting we recommend to prepare a sample area in order to evaluate the cleaning power and appearance (change in colour) of the treated object.
- Immanent rust stains cannot be removed.
- Do not allow drying of the product; otherwise clean surface with plenty of water and AKEMI® Stone Cleaner.
- Do not allow the product to react for more than 10 minutes (danger of stain forming).
- Higher temperatures shorten, lower temperatures lengthen the exposure time.
- A violet staining develops in the beginning, yet, it clears away after some time (approx. 1 - 2 days).
- Permanent violet staining caused by AKEMI® Rust Remover Marble can be removed with a 5% hydrogen peroxide solution.
- Provide sufficient ventilation when using the product indoors.
- Do not bring in direct contact with plants, otherwise rinse with plenty of water. Do not bring into plantations.
- For adequate waste disposal container must be completely emptied.

Technical Data:

Colour:	clear, slightly violet
Density:	approx. 1.10 g/cm³
pH value:	approx. 9

Storage:

If stored in dry and cool condition (5-25°C/41-77°F) in its closed original container at least 12 months from production.

Health & Safety:

Read Safety Data Sheet before handling or using this product.

AKEMI GmbH · Lechstraße 28 · 90451 Nürnberg · Germany
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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.

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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 Marble**
Product Use: **Cleaning agent**
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; NON-DANGEROUS GOOD according to the WHS Regulations and ADG Code.

Poison Schedule Not applicable

Signal Word: **WARNING**

Hazard Classification:

Skin Sensitisation	Category 1
Chronic Aquatic Hazard	Category 3

Hazard Statements:

H317	May cause an allergic skin reaction
H412	Harmful to aquatic life with long lasting effects

Prevention Statements:

P261	Avoid breathing mist/ vapour/ spray
P280	Wear protective gloves/ protective clothing/ eye protection and face protection
P264	Wash all exposed external body parts thoroughly after handling
P272	Contaminated work clothing should not be allowed out of the workplace
P273	Avoid release to the environment

Precautionary Statement: Response

P301+P330+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
P333+P313	IF skin irritation or rash occurs: Get medical advice
P362+P364	Take off contaminated clothing and wash before reuse
P035+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
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

Precautionary Statement: Storage

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.%
Sodium thioglycolate	367-51-1	12.5 – 25 %
Ammonium hydroxide	1336-21-6	< 1 %
2-methyl-4-isothiazoli-3-one	2682-20-4	< 1 %

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:

Wash out immediately with fresh 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. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact:

Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

Inhalation:

Remove from contaminated area. Other measures are usually unnecessary.

Ingestion:

Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

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:

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas. Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances. In such an event consider: foam. dry chemical powder. carbon dioxide.

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 fire fighting 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:

The material is not readily combustible under normal conditions. However, it will break down under fire conditions and the organic component may burn. Not considered to be a significant fire risk. Heat may cause expansion or decomposition with violent rupture of containers. Decomposes on heating and may produce toxic fumes of carbon monoxide (CO). May emit acrid smoke.

Fire Decomposition:

Carbon dioxide (CO_2) Carbon dioxide (CO_2) Nitrogen oxides (NO_x), Sulphur oxides (SO_x) and other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

HAZCHEM Not applicable

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Refer Section 8

Environmental precautions

Refer Section 12

Minor Spills:

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:

If contamination of drains or waterways occurs, advise emergency services. After clean-up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.

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. DO NOT allow clothing wet with material to stay in contact with skin.

Storage:

Store in original containers in an isolated approved flammable materials storage area. Keep containers securely sealed as supplied. Store in a cool, dry, well ventilated area. Store away from incompatible materials. Store away from foodstuff containers Protect containers against physical damage. Check regularly for spills and leaks. Observe manufacturer's

storage and handling recommendations contained within this SDS. Keep locked up. Restrictions may apply on quantities and to other materials permitted in the same location.

Suitable container:

Polyethylene or polypropylene container. 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)**

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. General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. 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 side shields. Chemical goggles. 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 chemical protective gloves, e.g. Butyl or 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 particulate filter of sufficient capacity is recommended

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Yellow-brown liquid
Odour:	Sulfidic
Odour threshold:	no data
pH:	9
Melting Point:	no data
Boiling Point:	100 °C
Flash point:	not applicable
Flammability:	no data
Evaporation Rate:	> 1 butyl acetate = 1
Lower Explosion Limit:	no data
Upper Explosion Limit:	no data
Vapour Pressure:	2.3 kPa
Relative Vapour Density:	> 1
Specific Gravity:	1.1 g/cm^3
Water Solubility:	miscible
Coeff Octanol/water distribution	no data
Auto ignition temp:	no data
Decomposition temp:	material is stable under normal conditions
SADT:	not applicable
Dynamic viscosity:	no data
Kinematic viscosity:	no data
Volatiles:	81 %

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 is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Prolonged exposure may cause headache, nausea and ultimately loss of consciousness. Not normally a hazard due to non-volatile nature of product

Ingestion:

Accidental ingestion of the material may be damaging to the health of the individual.

Skin Contact:

Skin contact with the material may be harmful; systemic effects may result following absorption. There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. 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. Mild skin reaction is seen with contact of the vapour of this material on moist skin. High concentrations or direct contact with solutions produces severe pain, a stinging sensation, burns and blisters and possible brown stains. Death could result from extensive burning. Vapour exposure may rarely, produce an itchy rash.

Eye Contact:

Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn)

Chronic Health Effects:

Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.

Toxicity *refer ingredients*

	Oral	Dermal	Inhalation
Product	LD_{50} 272-1090 mg/Kg	LD_{50} 5449 mg/Kg	
Sodium thioglycolate	LD_{50} 25 - 200 mg/Kg	LD_{50} >798 mg/Kg	LC_{50} >2729 mg/L 4h
Ammonium hydroxide	LD_{50} >350 mg/Kg		LC_{50} 2000 ppm 4h
2-methyl-4-isothiazolin-3-one	LD_{50} 120 mg/Kg	LD_{50} 242 mg/Kg	LC_{50} 0.1 mg/L 4h

Section 12 - Ecological Information

Toxicity *refer ingredients*

	Fish	Crustacea	Algae
Product			
Sodium thioglycolate	$LC_{50\ 96hr}$ >100 mg/L	$EC_{50\ 48hr}$ 38 mg/L	$EC_{50\ 72hr}$ 6.3 mg/L NOEC $_{72hr}$ 0.81 mg/L
Ammonium hydroxide	$LC_{50\ 96hr}$ 33.3 mg/L	$EC_{50\ 96hr}$ 0.83 mg/L	
2-methyl-4-isothiazolin-3-one	$LC_{50\ 96hr}$ 0.081 mg/L	$EC_{50\ 48hr}$ 0.189 mg/L	$EC_{50\ 96hr}$ 0.063 mg/L NOEC $_{96hr}$ 0.01 mg/L

Harmful to aquatic life with long lasting effects. 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
2-methyl-4-isothiazolin-3-one	HIGH	HIGH	LOW	LOW

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

NOT REGULATED

MARINE POLLUTANT	Not applicable
HAZCHEM	Not applicable

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	Yes
Canada	DSL	Yes
	NDSL	No
China	IECS	Yes
EU	EINECS	Yes
Japan	ENCS	Yes
Korea	KECI	Yes
New Zealand	NZIOC	Yes
Philippines	PICCS	Yes
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.

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End of SDS