Technical Data Sheet

Properties:

AKEMI® Triple Effect is a watery product which contains highly effective, modified organic compounds, combined with cleaning components which do not form layers. The product is supplied in a pump spray bottle and is characterized by the following qualities:
- reduced water absorption during periods of moisture
- oil- and grease repellent effect
- low adhesion of colours on treated stone surfaces (anti-graffiti effect)
- maintenance of breathing properties
- resistant to UV radiation
- tack-free hardening
- slight or almost no colour intensification
- no odour nuisance
- after hardening the product is harmless to health upon contact with food products, certified by an external German testing institute

Application Area:

AKEMI® Triple Effect is suited for the regular cleaning, care and protection of absorbent, fine ground or polished natural and artificial stones (such as marble, granite and concrete ashlar) in one operation on window sills, tables, kitchen tops or other small areas. AKEMI® Triple Effect removes slight staining and excellently supports and supplements the efficiency of impregnations.

Instructions for Use:

1. Shake well before use, then open spray nozzle.
2. Best working temperature: 15-25°C (59-77°F).
3. Spray on evenly and wipe off with a clean and dry cloth.

Special Notes:

- Even on surfaces treated with AKEMI® Triple Effect, it is possible that spots form after a long exposure time by aggressive products, s.a. juice, vinegar, alcohol or cosmetics. Yet, this formation is by far lower as on surfaces not being treated with AKEMI® Triple Effect. Spots can be avoided by immediately removing those aggressive products.
- Slight colour enhancement is possible.
- Stubborn staining should be treated with more intensive cleaners (s.a. AKEMI® Stone Cleaner).
- A surplus of product may cause spotting or streaks (can be removed with AKEMI® Cleaner I).
- Not suited for glazed and non-absorbent surfaces.
- For adequate waste disposal container must be completely emptied.

Technical Data:

Colour:	colourless, yellowish
Density:	approx. 1 g/cm³

Storage:

2 years if stored in cool place free from frost in its tightly closed original container.

Health & Safety:

Read Material Safety Data Sheet before handling or using this product.

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
according to 1907/2006/EC, Article 31

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*
SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**
· Trade name: **Triple Effect**

· Article number: 10846, 11853
· UFI: CKT1-Q0MP-500F-RMGN
· **1.2 Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.
· Application of the substance / the mixture Protective impregnation

· **1.3 Details of the supplier of the safety data sheet**
· Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH Tel. +49(0)911-642960
Lechstrasse 28 Fax. +49(0)911-644456
D 90451 Nürnberg e-mail info@akemi.de

· Further information obtainable from: Laboratory
· **1.4 Emergency telephone number:** Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.
+44 (171) 635 91 91
National Poison Inform. Centre
Medical Toxicology Unit
Avalonley Road
London SE14 5ER

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SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· Classification according to Regulation (EC) No 1272/2008
Eye Irrit. 2 H319 Causes serious eye irritation.

· **2.2 Label elements**
· Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.
· Hazard pictograms

GHS07

· Signal word Warning

· Hazard-determining components of labelling: Not applicable.
· Hazard statements H319 Causes serious eye irritation.
· Precautionary statements
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P280 Wear eye protection / face protection.
P305+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.
· Additional information: Contains 2-methyl-2H-isothiazol-3-one. May produce an allergic reaction.
· **2.3 Other hazards**
· Results of PBT and vPvB assessment
· PBT: Not applicable.

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· vPvB: Not applicable.

* **SECTION 3: Composition/information on ingredients**

· **3.2 Chemical characterisation: Mixtures**
· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 67-63-0 EINECS: 200-661-7 Index number: 603-117-00-0 Reg.nr.: 01-2119457558-25-xxxx	propan-2-ol	Flam. Liq. 2, H225 Eye Irrit. 2, H319; STOT SE 3, H336	<12.5%

· Additional information: For the wording of the listed hazard phrases refer to section 16.

* **SECTION 4: First aid measures**

· **4.1 Description of first aid measures**
· General information: No special measures required.
· After inhalation: Supply fresh air; consult doctor in case of complaints.
· After skin contact: Generally the product does not irritate the skin.
· After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
· After swallowing: If symptoms persist consult doctor.
· Information for doctor: Symptoms in alcohol intoxication:
a) acute intoxication: euphoria, inhibitions, disturbances in co-ordination; in severe cases insensibility, respiratory dysfunction.
b) chronic intoxication: CNS-, hepatic and cardiac dysfunctions with change of personality, alcohol induced hepatitis and reduced cardiac power.
Therapy in alcohol intoxication:
In acute intoxication observation of circulatory system, artifical breathing when indicated, gastrolavage, peritoneal or hemodialysis.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
· **5.3 Advice for firefighters**
· Protective equipment: No special measures required.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
· **6.2 Environmental precautions:** Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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· **6.4 Reference to other sections** No dangerous substances are released.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** No special measures required.
· Information about fire - and explosion protection: No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**
· Storage:
· Requirements to be met by storerooms and receptacles: No special requirements.
· Information about storage in one common storage facility: Not required.
· Further information about storage conditions: Protect from frost.
· Storage class: 10
· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· Additional information about design of technical facilities: No further data; see item 7.

· Ingredients with limit values that require monitoring at the workplace:

67-63-0 propan-2-ol

WEL	Short-term value: 1250 mg/m³, 500 ppm Long-term value: 999 mg/m³, 400 ppm

· DNELs

67-63-0 propan-2-ol

Oral	DNEL (Langzeit-wiederholt)	26 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	888 mg/kg bw/day (ARB)
		319 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	500 mg/m³ Air (ARB)
		89 mg/m³ Air (BEV)

· PNECs

67-63-0 propan-2-ol

PNEC (wässrig)	2,251 mg/l (KA)
	140.9 mg/l (MW)
	140.9 mg/l (SW)
	140.9 mg/l (WAS)
PNEC (fest)	28 mg/kg Trockengew (BO)
	552 mg/kg Trockengew (MWS)
	552 mg/kg Trockengew (SWS)

· Additional information: The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· Personal protective equipment:
· General protective and hygienic measures: Do not eat, drink, smoke or sniff while working.
Use skin protection cream for skin protection.
Clean skin thoroughly immediately after handling the product.
· Respiratory protection: Not necessary if room is well-ventilated.

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· Protection of hands: Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
Skin protection agent recommendation for preventive skin shelter without use of protective gloves:
STOKODERM(http://www.stoko.com)
Skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:
STOKO EMULSION (http://www.stoko.com)
Skin protection recommendation for skin cleaning after product handling:
FRAPANTOL (http://www.stoko.com)
Skin protection agent recommendation for skin aftercare:
STOKO VITAN (http://www.stoko.com)
The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times´ data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory anylyses of the company KCL GmbH in compliance with EN374.
This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: http://www.kcl.de).
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves
Fluorocarbon rubber (Viton)
Butyl rubber, BR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material
Value for the permeation: Level ≤ 6, 480 min
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· For the permanent contact gloves made of the following materials are suitable:
Fluorocarbon rubber (Viton)
Vitoject (KCL, Art_No. 890)
Butyl rubber, BR
Butoject (KCL, Art_No. 897, 898)

· As protection from splashes gloves made of the following materials are suitable:
Fluorocarbon rubber (Viton)
Vitoject (KCL, Art_No. 890)
Butyl rubber, BR
Butoject (KCL, Art_No. 897, 898)
Nitrile rubber, NBR
Camatril (KCL, 730, 731, 732, 733)

· Not suitable are gloves made of the following materials:
Leather gloves
Strong material gloves

· Eye protection: Goggles recommended during refilling

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· Body protection: Apron

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· General Information	
· Appearance:	
Form:	Fluid
Colour:	Light yellow
· Odour:	Characteristic
· pH-value at 20 °C:	7
· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	82 °C
· Flash point:	>55 °C
· Ignition temperature:	425 °C
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	2 Vol %
Upper:	12 Vol %
· Vapour pressure at 20 °C:	43 hPa
· Density at 20 °C:	0.99 g/cm³
· Solubility in / Miscibility with water:	Fully miscible.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	11 s (DIN 53211/4)
· Solvent content:	
Organic solvents:	10.1 %
Water:	88.0 %
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

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SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· Acute toxicity Based on available data, the classification criteria are not met.

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· LD/LC50 values relevant for classification:

67-63-0 propan-2-ol

Oral	LD50	>2,000 mg/kg (rabbit)
		5,840 mg/kg (rat) (OECD 401)
	NOAEL-Werte	400 mg/kg (rat)
Dermal	LD50	13,900 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/8h	47.5 ppm (rat)
	LC50/4 h	30-46.5 mg/l (rat)
	LC50	25,000 mg/m3 (rat)
	LC50/48h	>100 mg/l (Leuciscus idus)

· Primary irritant effect:
· Skin corrosion/irritation — Based on available data, the classification criteria are not met.
· Serious eye damage/irritation — Causes serious eye irritation.
· Respiratory or skin sensitisation — Based on available data, the classification criteria are not met.
· Additional toxicological information:
· CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
· Germ cell mutagenicity — Based on available data, the classification criteria are not met.
· Carcinogenicity — Based on available data, the classification criteria are not met.
· Reproductive toxicity — Based on available data, the classification criteria are not met.
· STOT-single exposure — Based on available data, the classification criteria are not met.
· STOT-repeated exposure — Based on available data, the classification criteria are not met.
· Aspiration hazard — Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

· **12.1 Toxicity**

· Aquatic toxicity:

67-63-0 propan-2-ol

EC50/24h	9,714 mg/l (daphnia magna)
EC50	>1,000 mg/l (BES)
LC50/24h	9,714 mg/l (daphnia magna)
EC50/15min	22,000 mg/l (Photobac. phosphoreum)
IC50/72h	>1,000 mg/l (Desmodesmus subspicatus)
EC10/18h	5,175 mg/l (pseudomonas putida) (DIN 38412)
EC50/48h	13,299 mg/l (daphnia magna)
EC50/72h	>1,000 mg/l (green alge)
	>100 mg/l (Scenedesmus subspicatus)
LC50/96h	6,550 mg/l (piscis)
	9,640 mg/l (Pimephales promelas)

· **12.2 Persistence and degradability** — No further relevant information available.
· **12.3 Bioaccumulative potential** — No further relevant information available.
· **12.4 Mobility in soil** — No further relevant information available.
· Additional ecological information:
· General notes: — Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
· **12.5 Results of PBT and vPvB assessment**
· PBT: — Not applicable.
· vPvB: — Not applicable.

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· **12.6 Other adverse effects** No further relevant information available.

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· Recommendation Smaller quantities can be disposed of with household waste.

· Uncleaned packaging:
· Recommendation: Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
· Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**	
· ADR, ADN, IMDG, IATA	Void
· **14.2 UN proper shipping name**	
· ADR, ADN, IMDG, IATA	Void
· **14.3 Transport hazard class(es)**	
· ADR, ADN, IMDG, IATA	
· Class	Void
· **14.4 Packing group**	
· ADR, IMDG, IATA	Void
· **14.5 Environmental hazards:**	
· Marine pollutant:	No
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

*
SECTION 15: Regulatory information

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

· Directive 2012/18/EU
· Named dangerous substances - ANNEX I None of the ingredients is listed.

· National regulations:

· Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
· VOC EU 107.3 g/l
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
· Recommended restriction of use refer to Technical Data Sheet (TDS)

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· Department issuing SDS: Laboratory
· Contact: Elke Hake
Fon ++49 (0)911 64296-59
@mail E.Hake@akemi.de

· Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· * Data compared to the previous version altered. Adaptation in accordance with REACH directive 1907/2006/EC