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

1.1 Product identifier

rea-sol

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant uses

Alkaline Cleaner

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

CHEMOTEC GmbH
Blochbachstrasse 40
63486 Bruchköbel / GERMANY
Phone +49(0)6181 / 72668
Fax +49(0)6181 / 77652
Homepage www.chemotec.de
E-mail info@chemotec.de

Address enquiries to

Technical information info@chemotec.de

Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

Advisory body +49 (0)89-19240 (24h) (English)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]

STOT SE 3: H335 May cause respiratory irritation.
Eye Dam. 1: H318 Causes serious eye damage.
Skin Sens. 1: H317 May cause an allergic skin reaction.

2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

Hazard pictograms

Signal word DANGER

Contains: tripotassium orthophosphate

Acetic acid, chloro-, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol and sodium hydroxide

Acetic acid, chloro-, reaction products with 4,5-dihydro-2-nonyl-1H-imidazole-1-ethanol and sodium hydroxide

Hazard statements

H335 May cause respiratory irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.

Precautionary statements

P261 Avoid breathing vapours / spray.
P280 Wear protective gloves / 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.
P310 Immediately call a POISON CENTER / doctor.
P501 Dispose of contents/container in accordance with local/national regulation.

Cleaner, 648/2004/CE, contains:

5 - <15% anionic surfactant
15 - <30% phosphates

2.3 Other hazards

Environmental hazards Does not contain any PBT or vPvB substances.

Other hazards Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
15 - <25	tripotassium orthophosphate
	CAS: 7778-53-2, EINECS/ELINCS: 231-907-1, Reg-No.: 01-2119971078-30-XXXX
	GHS/CLP: Eye Dam. 1: H318 - STOT SE 3: H335
1 - <3	sodium etasulfate
	CAS: 126-92-1, EINECS/ELINCS: 204-812-8, Reg-No.: 01-2119971586-23-XXXX
	GHS/CLP: Skin Irrit. 2: H315 - Eye Dam. 1: H318
	SCL [%]: >= 20: Eye Dam. 1: H318, >=10 - <20: Eye Irrit. 2: H319
1 - <3	Sodium p-cumenesulphonate
	CAS: 15763-76-5, EINECS/ELINCS: 239-854-6, Reg-No.: 01-2119489411-37-XXXX
	GHS/CLP: Eye Irrit. 2: H319
1 - <3	Acetic acid, chloro-, reaction products with 4,5-dihydro-2-nonyl-1H-imidazole-1-ethanol and sodium hydroxide
	CAS: 68608-61-7, EINECS/ELINCS: 271-789-9
	GHS/CLP: Skin Irrit. 2: H315 - Eye Irrit. 2: H319 - Skin Sens. 1: H317
1 - <3	Acetic acid, chloro-, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol and sodium hydroxide
	CAS: 68608-64-0, EINECS/ELINCS: 271-792-5
	GHS/CLP: Skin Irrit. 2: H315 - Eye Irrit. 2: H319 - Skin Sens. 1: H317

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Take off contaminated clothing and wash before reuse.

Inhalation Ensure supply of fresh air.
In the event of symptoms seek medical treatment.

Skin contact When in contact with the skin, clean with soap and water.
Consult a doctor if skin irritation persists.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Seek medical advice immediately.

Ingestion Rinse out mouth and give plenty of water to drink.
Do not induce vomiting.
Seek medical advice immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects

4.3 Indication of any immediate medical attention and special treatment needed

If swallowed or in the event of vomiting, risk of product entering the lungs.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Product itself is non-combustible. Fire extinguishing method of surrounding areas must be considered.

Extinguishing media that must not be used

Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

High risk of slipping due to leakage/spillage of product.
Use personal protective equipment (protective gloves, safety glasses, protective clothing).

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with eyes and skin. Use personal protective equipment.

Do not eat, drink or smoke when using this product.
After worktime and before work breaks the affected skin areas must be thoroughly cleaned.
Use barrier skin cream.
Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
Provide alkali-resistant floor.
Prevent penetration into the ground.

Do not store together with food and animal food/diet.

Keep container tightly closed.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

not applicable

DNEL

Substance
sodium etasulfate, CAS: 126-92-1
Industrial, inhalative, Long-term - systemic effects: 285 mg/m³.
Industrial, dermal, Long-term - systemic effects: 4060 mg/kg bw/d.
general population, dermal, Long-term - systemic effects: 2440 mg/kg bw/d.
general population, oral, Long-term - systemic effects: 24 mg/kg bw/d.
general population, inhalative, Long-term - systemic effects: 85 mg/m³.
Sodium p-cumenesulphonate, CAS: 15763-76-5
Industrial, inhalative, Long-term - systemic effects: 26,9 mg/m³.
Industrial, dermal, Long-term - systemic effects: 136,25 mg/kg bw/day.
general population, oral, Long-term - systemic effects: 3,8 mg/kg bW/d.
general population, dermal, Long-term - systemic effects: 68,1 mg/kg bw/day.
general population, inhalative, Long-term - systemic effects: 6,6 mg/m³.
tripotassium orthophosphate, CAS: 7778-53-2
Industrial, inhalative, Long-term - systemic effects: 8,17 mg/m³.
general population, inhalative, Long-term - systemic effects: 2,01 mg/m³.

PNEC

Substance
sodium etasulfate, CAS: 126-92-1
soil, 0,22 mg/kg dw.
sediment (seawater), 0,15 mg/kg dw.
sediment (freshwater), 1,5 mg/kg dw.
sewage treatment plants (STP), 1,5 mg/l.
seawater, 0,01357 mg/l.
freshwater, 0,1357 mg/l.
Sodium p-cumenesulphonate, CAS: 15763-76-5
soil, 0,037 mg/kg.
sediment (seawater), 0,086 mg/kg.
sediment (freshwater), 0,862 mg/kg.
seawater, 0,023 mg/L.
sewage treatment plants (STP), 100 mg/L.
freshwater, 0,23 mg/L.

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Safety glasses. (EN 166:2001)
Hand protection	0,4 mm; Butyl rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.
Skin protection	Protective clothing (EN 340)
Other	Avoid contact with eyes and skin. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Respiratory protection	Breathing apparatus in the event of aerosol or mist formation. Short term: filter apparatus, filter AB. (DIN EN 14387)
Thermal hazards	none
Delimitation and monitoring of the environmental exposition	Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Color	not determined
Odor	characteristic
Odour threshold	not applicable
pH-value	11,4
pH-value [1%]	not determined
Boiling point [°C]	not determined
Flash point [°C]	not applicable
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	not determined
Density [g/ml]	not determined
Bulk density [kg/m³]	not applicable
Solubility in water	miscible
Solubility other solvents	No information available.
Partition coefficient [n-octanol/water]	not determined
Kinematic viscosity	not applicable
Relative vapour density	not applicable
Evaporation speed	not applicable
Melting point [°C]	not determined
Auto-ignition temperature	not applicable
Decomposition temperature [°C]	not determined
Particle characteristics	not applicable

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

Reactions with acids and strong oxidizing agents.

10.4 Conditions to avoid

See SECTION 7.2.

10.5 Incompatible materials

Acids
Oxidizing agent

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

Substance
sodium etasulfate, CAS: 126-92-1
LD50, oral, Rat: >2000 mg/kg.
Sodium p-cumenesulphonate, CAS: 15763-76-5
LD50, oral, Rat: > 2000 mg/kg OECD 401.
NOAEL, oral, 763-3534 mg/kg/90d (OECD 408).
NOAEL, oral, Rat: > 936 mg/kg.

Acute dermal toxicity

Substance
sodium etasulfate, CAS: 126-92-1
LD50, dermal, Rat: >2000 mg/kg.
Sodium p-cumenesulphonate, CAS: 15763-76-5
LD50, dermal, Rabbit: > 2000 mg/kg.
NOAEL, dermal, > 440 mg/kg/90d (OECD 411).

Acute inhalational toxicity

Serious eye damage/irritation Risk of serious damage to eyes.
Based on the available information, the classification criteria are fulfilled.
Calculation method

Substance
Acetic acid, chloro-, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-64-0
No information available.:
Eye, Rabbit:
irritant.
Acetic acid, chloro-, reaction products with 4,5-dihydro-2-nonyl-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-61-7
No information available.:
Eye, Rabbit:
irritant.
tripotassium orthophosphate, CAS: 7778-53-2
No information available.:
Eye corrosive

Skin corrosion/irritation Based on the available information, the classification criteria are not fulfilled.

Substance
Acetic acid, chloro-, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-64-0
No information available.:
dermal, Rabbit:
irritant.
Acetic acid, chloro-, reaction products with 4,5-dihydro-2-nonyl-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-61-7
dermal, mouse:
irritant.

No information available.:
sodium etasulfate, CAS: 126-92-1
No information available.:
tripotassium orthophosphate, CAS: 7778-53-2
OECD 439.
negative.

Respiratory or skin sensitisation

May cause an allergic skin reaction.
Based on the available information, the classification criteria are fulfilled.
Calculation method

Substance
Acetic acid, chloro-, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-64-0
OECD 429.
dermal, mouse:
Skin sensitizing.
Acetic acid, chloro-, reaction products with 4,5-dihydro-2-nonyl-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-61-7
OECD 429.
dermal, mouse:
Skin sensitizing
sodium etasulfate, CAS: 126-92-1
dermal, mouse:
negative
tripotassium orthophosphate, CAS: 7778-53-2
OECD 429.
dermal, mouse:
negative.

Specific target organ toxicity — single exposure

May cause respiratory irritation.
Based on the available information, the classification criteria are fulfilled.
Calculation method

Substance
Acetic acid, chloro-, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-64-0
No information available.:
Acetic acid, chloro-, reaction products with 4,5-dihydro-2-nonyl-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-61-7
No information available.:
sodium etasulfate, CAS: 126-92-1
No information available.:
tripotassium orthophosphate, CAS: 7778-53-2
No information available.:

Specific target organ toxicity — repeated exposure

Based on the available information, the classification criteria are not fulfilled.

Substance
Acetic acid, chloro-, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-64-0
No information available.:
Acetic acid, chloro-, reaction products with 4,5-dihydro-2-nonyl-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-61-7

No information available.:
sodium etasulfate, CAS: 126-92-1
No information available.:
tripotassium orthophosphate, CAS: 7778-53-2
No information available.:
negative.

Mutagenicity Based on the available information, the classification criteria are not fulfilled.

Substance
Acetic acid, chloro-, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-64-0
No information available.:
Acetic acid, chloro-, reaction products with 4,5-dihydro-2-nonyl-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-61-7
No information available.:
sodium etasulfate, CAS: 126-92-1
OECD 476 In vitro Mammalian Cell Gene Mutation T.
negative.
OECD 473 In vitro Mammalian Chromosomal Aberrat.
negative.
OECD 471.
negative.
tripotassium orthophosphate, CAS: 7778-53-2
OECD 471.
negative.

Reproduction toxicity Based on the available information, the classification criteria are not fulfilled.

Substance
Acetic acid, chloro-, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-64-0
No information available.:
Acetic acid, chloro-, reaction products with 4,5-dihydro-2-nonyl-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-61-7
No information available.:
sodium etasulfate, CAS: 126-92-1
No information available.:
tripotassium orthophosphate, CAS: 7778-53-2
OECD 422.
negative.
NOAEL, oral, Rat: 282 mg/kg bw/day.

Carcinogenicity Based on the available information, the classification criteria are not fulfilled.

Substance
Acetic acid, chloro-, reaction products with 2-heptyl-4,5-dihydro-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-64-0
No information available.:

Acetic acid, chloro-, reaction products with 4,5-dihydro-2-nonyl-1H-imidazole-1-ethanol and sodium hydroxide, CAS: 68608-61-7
No information available.:
sodium etasulfate, CAS: 126-92-1
Rat: > 1125 mg/kg (Expositionsdauer 730 d).
negative - Oral - TCLo.
tripotassium orthophosphate, CAS: 7778-53-2
No information available.:

Aspiration hazard Based on the available information, the classification criteria are not fulfilled.

General remarks

Toxicological data of complete product are not available.
The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 12: Ecological information

12.1 Toxicity

Substance
sodium etasulfate, CAS: 126-92-1
LC50, (96h), Danio rerio: >100 mg/l.
EC50, (3h), Activated sludge: >100 mg/l.
EC50, (72h), Desmodesmus subspicatus: >100 mg/l.
EC5, (48h), Daphnia magna: >100 mg/l.
Sodium p-cumenesulphonate, CAS: 15763-76-5
LC50, (96h), Cyprinus carpio: > 100 mg/l OECD 203.
EC50, (72h), Desmodesmus subspicatus: > 100 mg/l OECD 201.
EC50, (48h), Daphnia magna: > 100 mg/l OECD 202.
NOEC, (96h), Algae: 31 mg/l EPA OPPTS.
ErC50, (3h), Bacteria: > 1000 mg/l OECD 209.

12.2 Persistence and degradability

Behaviour in environment compartments No information available.

Behaviour in sewage plant No information available.

Biological degradability The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.
Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

12.4 Mobility in soil

Spillages may penetrate the soil causing ground water contamination.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

Ecological data of complete product are not available.
The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.
Coordinate disposal with the authorities if necessary.

Waste no. (recommended) 200129*

Contaminated packaging

Uncontaminated packaging may be reused.

Waste no. (recommended) 150110* packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.2 UN proper shipping name

Transport by land according to ADR/RID	NO DANGEROUS GOODS
Inland navigation (ADN)	NO DANGEROUS GOODS
Marine transport in accordance with IMDG	NOT CLASSIFIED AS "DANGEROUS GOODS"
Air transport in accordance with IATA	NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.4 Packing group

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID	no
Inland navigation (ADN)	no
Marine transport in accordance with IMDG	no
Air transport in accordance with IATA	no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS	2008/98/EC 2000/532/EC); 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2020)
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011).
- Observe employment restrictions for people	Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.
- VOC (2010/75/CE)	0%

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H335 May cause respiratory irritation.
H318 Causes serious eye damage.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
EL50 = Median effective loading
ELINCS = European List of Notified Chemical Substances
EmS = Emergency Schedules
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
IVIS = In vitro irritation score
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
LL50 = Median lethal loading
LQ = Limited Quantities
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure

STOT SE 3: H335 May cause respiratory irritation. (Calculation method)
Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)
Skin Sens. 1: H317 May cause an allergic skin reaction. (Calculation method)

Modified position

none