SAFETY DATA SHEET
KR S2 CATERING SANITISER CONCENTRATE

According to Regulation (EC) No 1907/2006, Annex II, as amended.

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

1.1. Product identifier

Product name KR S2 CATERING SANITISER CONCENTRATE

Internal identification C883

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

Identified uses Detergent. Disinfectant.

Uses advised against Use only for intended applications.

1.3. Details of the supplier of the safety data sheet

Supplier

ARROW SOLUTIONS
RAWDON ROAD
MOIRA
SWADLINCOTE
DERBYSHIRE
DE12 6DA
TEL: +44 (0)1283 221044
FAX: +44 (0)1283 225731
sales@arrowchem.com

1.4. Emergency telephone number

Emergency telephone +44 (0) 777 8505 330 (24 hrs).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Dam. 1 - H318

Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411

2.2. Label elements

Pictogram

Signal word Danger

Hazard statements

H315 Causes skin irritation.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements	P273 Avoid release to the environment. P280 Wear protective gloves, eye and 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 national regulations.
Contains	Quaternary ammonium compounds, benzyl-C12-14 (even numbered)-alkyldimethyl, chlorides
Detergent labelling	15 - < 30% non-ionic surfactants, < 5% disinfectants, < 5% EDTA and salts thereof

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

(C9-11) ALKYL ALCOHOL ETHOXYLATE **10-30%**

CAS number: 68439-45-2

Classification
Acute Tox. 4 - H302
Eye Dam. 1 - H318

AMINES, C12-14 (EVEN NUMBERED)-ALKYLDIMETHYL, N-OXIDES **5-10%**

CAS number: 308062-28-4 EC number: 931-292-6 REACH registration number: 01-2119490061-47-XXXX

M factor (Acute) = 1

Classification
Acute Tox. 4 - H302
Skin Irrit. 2 - H315
Eye Dam. 1 - H318
Aquatic Acute 1 - H400
Aquatic Chronic 2 - H411

Quaternary ammonium compounds, benzyl-C12-14 (even numbered)-alkyldimethyl, chlorides **1-5%**

CAS number: 68424-85-1 EC number: 939-350-2

M factor (Acute) = 10 M factor (Chronic) = 1

Classification
Acute Tox. 4 - H302
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

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4.1. Description of first aid measures

General information Show this Safety Data Sheet to the medical personnel.

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.

Ingestion Rinse mouth thoroughly with water. Do not induce vomiting. Get medical attention if any discomfort continues.

Skin contact Rinse with water. Get medical attention if symptoms are severe or persist after washing.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation Coughing, chest tightness, feeling of chest pressure.

Ingestion Gastrointestinal symptoms, including upset stomach.

Skin contact Causes skin irritation.

Eye contact Causes serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Ammonia or amines. Carbon monoxide (CO). Carbon dioxide (CO_2). Nitrous gases (NOx).

5.3. Advice for firefighters

Protective actions during firefighting No specific firefighting precautions known.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Avoid contact with skin, eyes and clothing. Do not touch or walk into spilled material. Provide adequate ventilation. Take care as floors and other surfaces may become slippery. Avoid contact with contaminated tools and objects. Do not handle broken packages without protective equipment. Wash thoroughly after dealing with a spillage.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage.

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6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Use biocides safely. Always read the label and product information before use. Wear protective gloves, eye and face protection. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Avoid release to the environment. Do not eat, drink or smoke when using this product. Do not use in paint spraying equipment. Do not empty into drains. Do not reuse empty containers. Avoid contact with contaminated tools and objects. Do not handle broken packages without protective equipment. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store at temperatures between 4°C and 40°C.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

AMINES, C12-14 (EVEN NUMBERED)-ALKYLDIMETHYL, N-OXIDES (CAS: 308062-28-4)

DNEL

Workers - Dermal; systemic effects: 11 mg/kg/day
Workers - Inhalation; Long term systemic effects: 15.5 mg/m³
Workers - Dermal; local effects: 0.27 %
General population - Dermal; Long term systemic effects: 5.5 mg/kg/day
General population - Inhalation; Long term systemic effects: 1.53 mg/m³
General population - Oral; Long term systemic effects: 0.44 mg/kg/day

PNEC

- Fresh water; 0.0335 mg/l
- Marine water; 0.00335 mg/l
- Water, Intermittent release; 0.0335 mg/l
- Sediment (Freshwater); 5.24 mg/kg
- Sediment (Marinewater); 0.524 mg/l
- Soil; 1.02 mg/kg
- STP; 24 mg/kg

Quaternary ammonium compounds, benzyl-C12-14 (even numbered)-alkyldimethyl, chlorides (CAS: 68424-85-1)

DNEL

Industry - Dermal; Long term systemic effects: 5.7 mg/kg/day
Industry - Inhalation; Long term systemic effects: 3.96 mg/m³
Consumer - Oral; Long term systemic effects: 3.4 mg/kg/day
Consumer - Dermal; Long term systemic effects: 3.4 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 1.64 mg/m³

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PNEC

- Fresh water; .0009 mg/l
- Marine water; .00096 mg/l
- Intermittent release; .00016 mg/l
- Sediment (Freshwater); 12.27 mg/kg
- Sediment (Marinewater); 13.09 mg/kg
- Soil; 7.0 mg/kg
- STP; 0.4 mg/l

tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate (CAS: 51981-21-6)

DNEL

Workers - Inhalation; Long term systemic effects: 7.3 mg/m³
Workers - Dermal; Long term systemic effects: 15,000 mg/kg/day
General population - Inhalation; Long term systemic effects: 1.8 mg/m³
General population - Dermal; Long term systemic effects: 7,500 mg/kg/day
General population - Oral; Long term systemic effects: 1.5 mg/kg/day

8.2. Exposure controls

Protective equipment

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. The following protection should be worn: Chemical splash goggles.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. The selected gloves should have a breakthrough time of at least 4 hours. The breakthrough time for any glove material may be different for different glove manufacturers. When used with mixtures, the protection time of gloves cannot be accurately estimated. For exposure up to 4 hours, wear gloves made of the following material: Neoprene. Nitrile rubber. Rubber (natural, latex). Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended. Protective gloves should have a minimum thickness of 0.15 mm. Glove thickness is not necessarily a good measure of glove resistance as the permeation rate will depend on the exact glove composition. The choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Repeated exposure to chemicals will degrade the ability of the glove to provide resistance to chemicals. Specific work environments and material handling practices may vary, therefore safety procedures should be developed for each intended application.

Hygiene measures

Wash hands thoroughly after handling. Take off contaminated clothing and wash it before reuse.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Clear liquid.

Colour Red.

Odour Mild.

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pH	pH (concentrated solution): 10.5
Relative density	1.02 @ 25°C
Solubility(ies)	Soluble in water.

9.2. Other information

Other information	Not determined.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Not determined.

10.4. Conditions to avoid

Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Materials to avoid	No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products	Thermal decomposition or combustion products may include the following substances: Ammonia or amines. Carbon monoxide (CO). Carbon dioxide (CO2). Nitrous gases (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	3,299.88

Inhalation	Coughing, chest tightness, feeling of chest pressure.
Ingestion	Gastrointestinal symptoms, including upset stomach.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.

Toxicological information on ingredients.

(C9-11) ALKYL ALCOHOL ETHOXYLATE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	1,200.0
Species	Rat
Notes (oral LD_{50})	
ATE oral (mg/kg)	1,200.0

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Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	2,000.1
Species	Rat
ATE dermal (mg/kg)	2,000.1

AMINES, C12-14 (EVEN NUMBERED)-ALKYLDIMETHYL, N-OXIDES

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	1,680.0
Species	Rat
Notes (oral LD_{50})	
ATE oral (mg/kg)	1,680.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	2,000.01
Species	Rat
ATE dermal (mg/kg)	2,000.01

Quaternary ammonium compounds, benzyl-C12-14 (even numbered)-alkyldimethyl, chlorides

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	397.5
Species	Rat
ATE oral (mg/kg)	397.5

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	3,412.0
Species	Rabbit

tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,001.0
Species	Rat
ATE oral (mg/kg)	2,001.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	2,000.1
Species	Rat

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ATE dermal (mg/kg) 2,000.1

SECTION 12: Ecological Information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish Not determined.

Ecological information on ingredients.

AMINES, C12-14 (EVEN NUMBERED)-ALKYLDIMETHYL, N-OXIDES

Acute aquatic toxicity

LE(C)$_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC_{50}, 96 hours: 2.67 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 3.1 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 0.146 mg/l, Algae

Chronic aquatic toxicity

Chronic toxicity - fish early life stage	NOEC, 302 days: 0.42 mg/l, Fish
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0.7 mg/l, Daphnia magna

Quaternary ammonium compounds, benzyl-C12-14 (even numbered)-alkyldimethyl, chlorides

Acute aquatic toxicity

LE(C)$_{50}$	0.01 < L(E)C50 ≤ 0.1
M factor (Acute)	10
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 0.03 mg/l mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 96 hours: ~ 0.06 mg/l, Selenastrum capricornutum

Chronic aquatic toxicity

M factor (Chronic)	1

tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate

Acute aquatic toxicity

Acute toxicity - fish	LC50, 96 hours: > 100 mg/l, Oncorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: > 100 mg/l, Daphnia magna

12.2. Persistence and degradability

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Persistence and degradability The product is expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

12.4. Mobility in soil

Mobility Soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

SECTION 14: Transport information

General For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

Special Provisions note

14.1. UN number

UN No. (ADR/RID) 3082

UN No. (IMDG) 3082

UN No. (ICAO) 3082

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(alkyl (C12-16)dimethylbenzyl ammonium chloride)

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(alkyl (C12-16)dimethylbenzyl ammonium chloride)

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(alkyl (C12-16)dimethylbenzyl ammonium chloride)

14.3. Transport hazard class(es)

ADR/RID class 9

ADR/RID classification code M6

ADR/RID label 9

IMDG class 9

ICAO class/division 9

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Transport labels

14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	•3Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(-)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

SECTION 15: Regulatory information

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

National regulations	Control of Substances Hazardous to Health Regulations 2002 (as amended).
EU legislation	Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 453/2010 of 20 May 2010. Commission Regulation (EU) No 2015/830 of 28 May 2015.
Guidance	Workplace Exposure Limits EH40.

15.2. Chemical safety assessment

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstracts Service.
DNEL: Derived No Effect Level.
EC_{50}: 50% of maximal Effective Concentration.
IMDG: International Maritime Dangerous Goods.
ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
LC_{50}: Lethal Concentration to 50 % of a test population.
LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose).
NOEC: No Observed Effect Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
PNEC: Predicted No Effect Concentration.
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
UN: United Nations.
vPvB: Very Persistent and Very Bioaccumulative.

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
Aquatic Acute = Hazardous to the aquatic environment (acute)
Aquatic Chronic = Hazardous to the aquatic environment (chronic)
Eye Dam. = Serious eye damage
Skin Corr. = Skin corrosion
Skin Irrit. = Skin irritation

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

20/09/2018

Revision

5.0

Supersedes date

06/06/2018

SDS number

28227

Hazard statements in full

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.