



SAFETY DATA SHEET

KR1 WASHING UP LIQUID

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

1.1. Product identifier

Product name KR1 WASHING UP LIQUID

Internal identification C884

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

Identified uses Cleaning agent.

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). +44 (0) 1865 407333 (24 hrs). MEDICAL AND ENVIRONMENTAL EMERGENCIES ONLY.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Eye Dam. 1 - H318

Environmental hazards Not Classified

2.2. Label elements

Pictogram



Signal word Danger

Hazard statements H318 Causes serious eye damage.
EUH208 Contains METHYL-2H or METHYL-4 (3:1) Mixture of EC NO 220-239-6. May produce an allergic reaction.

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Precautionary statements	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. P280 Wear eye protection. P501 Dispose of contents/ container in accordance with national regulations.
Contains	Alcohols, C12-C14 (even numbered), ethoxylated<2.5EO, sulphates, sodium salts
Detergent labelling	5 - < 15% anionic surfactants, < 5% amphoteric surfactants, < 5% non-ionic surfactants, < 5% perfumes, Contains d-LIMONENE, CITRAL, METHYL-2H or METHYL-4 (3:1) Mixture of EC NO 220-239-6

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

Alcohols, C12-C14 (even numbered), ethoxylated<2.5EO, sulphates, sodium salts			5-10%
CAS number: 68891-38-3	EC number: 500-234-8	REACH registration number: 01-2119488639-16-XXXX	
Classification Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 3 - H412		Classification (67/548/EEC or 1999/45/EC) Xi;R36/38.	
Amides, C8-18 (even numbers) and C18-unsatd, N,N-bis(hydroxyethyl)			1-5%
CAS number: 68155-07-7	EC number: 931-329-6	REACH registration number: 01-2119490100-53-xxxx	
Classification Acute Tox. 4 - H312 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 2 - H411		Classification (67/548/EEC or 1999/45/EC) Xi;R38,R41.	
COCO AMIDO PROPYL BETAINE			1-5%
CAS number: 61789-40-0	EC number: 931-296-8	REACH registration number: 01-2119488533-30-xxxx	
Classification Eye Dam. 1 - H318 Aquatic Chronic 3 - H412		Classification (67/548/EEC or 1999/45/EC) Xi;R41.	

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d-LIMONENE		<1%
CAS number: 5989-27-5	EC number: 227-813-5	
M factor (Acute) = 1	M factor (Chronic) = 1	
Classification Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410		Classification (67/548/EEC or 1999/45/EC) R10 R43 Xi;R38 N;R50/53
CITRAL		<1%
CAS number: 5392-40-5	EC number: 226-394-6	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317		Classification (67/548/EEC or 1999/45/EC) R43 Xi;R38
METHYL-2H or METHYL-4 (3:1) Mixture of EC NO 220-239-6		<1%
CAS number: 55965-84-9		
M factor (Acute) = 10	M factor (Chronic) = 10	
Classification Acute Tox. 3 - H301 Acute Tox. 3 - H311 Acute Tox. 3 - H331 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410		Classification (67/548/EEC or 1999/45/EC) T;R23/24/25 C;R34 R43 N;R50/53

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

SECTION 4: First aid measures

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

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

Inhalation	May cause discomfort.
Ingestion	Gastrointestinal symptoms, including upset stomach.
Skin contact	Product has a defatting effect on skin.
Eye contact	Causes serious eye damage.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Use fire-extinguishing media suitable for the surrounding fire.
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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 (NO _x). Sulphurous gases (SO _x).
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5.3. Advice for firefighters

Protective actions during firefighting	No specific firefighting precautions known.
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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. Do not touch or walk into spilled material. Avoid contact with skin, eyes and clothing. 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.
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6.2. Environmental precautions

Environmental precautions	Do not discharge into drains or watercourses or onto the ground.
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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. Absorb spillage with inert, damp, 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	For personal protection, see Section 8.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Wear protective gloves, eye and face protection. Avoid contact with skin, eyes and clothing. Do not reuse empty containers. Do not use in paint spraying equipment. Do not empty into drains. Do not eat, drink or smoke when using this product. Do not handle broken packages without protective equipment. Wash hands thoroughly after handling.
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7.2. Conditions for safe storage, including any incompatibilities

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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

Alcohols, C12-C14 (even numbered), ethoxylated<2.5EO, sulphates, sodium salts (CAS: 68891-38-3)

DNEL

- Industry - Dermal; Long term : 2050 mg/kg/day
- Industry - Inhalation; Long term : 175 mg/m³
- Consumer - Oral; Long term : 15 mg/kg/day
- Consumer - Dermal; Long term : 1650 mg/kg/day
- Consumer - Inhalation; Long term : 52 mg/m³

PNEC

- Fresh water; 0.24 mg/l
- Marine water; 0.024 mg/l
- Intermittent release; 0.071 mg/l
- Sediment (Freshwater); 5.45 mg/kg
- Sediment (Marinewater); 0.545 mg/kg
- Soil; 0.946 mg/kg
- STP; 10000 mg/l

Amides, C8-18 (even numbers) and C18-unsatd, N,N-bis(hydroxyethyl) (CAS: 68155-07-7)

DNEL

- Industry - Dermal; Long term systemic effects: 4.16 mg/kg/day
- Industry - Inhalation; Long term systemic effects: 73.4 mg/m³
- Consumer - Dermal; Long term systemic effects: 2.5 mg/kg/day
- Consumer - Inhalation; Long term systemic effects: 21.73 mg/m³
- Consumer - Oral; Long term systemic effects: 6.25 mg/kg/day

PNEC

- Fresh water; 0.007 mg/l
- Marine water; 0.0007 mg/l
- Intermittent release; 0.0024 mg/l
- STP; 830 mg/l
- Soil; 0.0348 mg/l
- Sediment (Freshwater); 0.195 mg/kg
- Sediment (Marinewater); 0.0195 mg/kg

COCO AMIDO PROPYL BETAINE (CAS: 61789-40-0)

DNEL

- Industry - Dermal; Long term systemic effects: 12.5
- Consumer - Dermal; Long term systemic effects: 7.5 mg/kg/day
- Industry - Inhalation; Long term systemic effects: 44 mg/m³

PNEC

- Fresh water; 0.0135 mg/l
- STP; 300 mg/l
- Soil; 0.8 mg/kg
- Sediment (Marinewater); 0.1 mg/kg
- Sediment (Freshwater); 1 mg/kg
- Marine water; 0.00135 mg/l

8.2. Exposure controls

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Protective equipment



Eye/face protection

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

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. 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. 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. 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. Protective gloves should have a minimum thickness of 0.28 mm. Glove thickness is not necessarily a good measure of glove resistance as the permeation rate will depend on the exact glove composition. For work of short duration or where a high degree of manual dexterity is needed, use protective gloves made of: Nitrile rubber. Rubber (natural, latex). 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.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Green.
Odour	Mild. Lemon.
pH	pH (concentrated solution): 9.5
Relative density	1.03 @ 25°C
Solubility(ies)	Completely soluble in water.
Viscosity	1,000 cP @ 25°C

9.2. Other information

Other information	Not determined.
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SECTION 10: Stability and reactivity

10.1. Reactivity

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

Stability	Stable at normal ambient temperatures and when used as recommended.
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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 (NO_x). Sulphurous gases (SO_x).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Inhalation May cause discomfort.

Ingestion Gastrointestinal symptoms, including upset stomach.

Skin contact Product has a defatting effect on skin.

Eye contact Causes serious eye damage.

Toxicological information on ingredients.

Alcohols, C12-C14 (even numbered), ethoxylated<2.5EO, sulphates, sodium salts

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,001.0

Species Rat

Notes (oral LD₅₀)

ATE oral (mg/kg) 2,001.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,001.0

Species Rat

ATE dermal (mg/kg) 2,001.0

Amides, C8-18 (even numbers) and C18-unsatd, N,N-bis(hydroxyethyl)

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

ATE oral (mg/kg) 5,000.0

KR1 WASHING UP LIQUID**Acute toxicity - dermal**

Acute toxicity dermal (LD₅₀ 2,000.0
mg/kg)

Species Rat

ATE dermal (mg/kg) 2,000.0

COCO AMIDO PROPYL BETAINE**Acute toxicity - oral**

Acute toxicity oral (LD₅₀ 5,000.0
mg/kg)

Species Rat

CITRAL**Acute toxicity - oral**

Acute toxicity oral (LD₅₀ 4,960.0
mg/kg)

Species Rat

ATE oral (mg/kg) 4,960.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 2,250.0
mg/kg)

Species Rabbit

ATE dermal (mg/kg) 2,250.0

Acute toxicity - inhalation

Acute toxicity inhalation
(LC₅₀ vapours mg/l) 680.0

Species Rat

ATE inhalation (vapours
mg/l) 680.0

METHYL-2H or METHYL-4 (3:1) Mixture of EC NO 220-239-6**Acute toxicity - oral**

Acute toxicity oral (LD₅₀ 53.0
mg/kg)

Species Rat

Notes (oral LD₅₀) Estimated value.

ATE oral (mg/kg) 53.0

Acute toxicity - dermal

ATE dermal (mg/kg) 300.0

Acute toxicity - inhalation

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ATE inhalation (vapours 3.0
mg/l)

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.

SECTION 12: Ecological Information

Ecotoxicity Not regarded as dangerous for the environment.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish Not determined.

Ecological information on ingredients.

Alcohols, C12-C14 (even numbered), ethoxylated<2.5EO, sulphates, sodium salts

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: 7.1 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC50, 48 hours: 7.4 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC50, 72 hours: 27 mg/l, Scenedesmus subspicatus

Amides, C8-18 (even numbers) and C18-unsatd, N,N-bis(hydroxyethyl)

Acute aquatic toxicity

Acute toxicity - aquatic invertebrates EC50, : 3.2 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC50, : 3.9 mg/l,

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 0.07 mg/l, Daphnia magna

COCO AMIDO PROPYL BETAINE

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: 1.11 mg/l, Pimephales promelas (Fat-head Minnow)
LC50, 96 hours: 1.1 mg/l, Cyprinodon variegatus (Sheepshead minnow)

Acute toxicity - aquatic invertebrates EC50, 48 hours: 1.9 mg/l, Freshwater invertebrates
EC50, : 0.3 mg/l, Freshwater invertebrates
EC50, 48 hours: 21.5 mg/l mg/l, Daphnia magna

Acute toxicity - aquatic plants EC50, 48 hours: 30.0 mg/l, Marinewater algae

d-LIMONENE

Acute aquatic toxicity

LE(C)50 0.1 < L(E)C50 ≤ 1

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M factor (Acute) 1

Chronic aquatic toxicity

M factor (Chronic) 1

METHYL-2H or METHYL-4 (3:1) Mixture of EC NO 220-239-6

Acute aquatic toxicity

LE(C)₅₀ 0.01 < L(E)C₅₀ ≤ 0.1

M factor (Acute) 10

Acute toxicity - fish Estimated value.
LC₅₀, 96 hours: 13 mg/l, Fish

Chronic aquatic toxicity

NOEC 0.001 < NOEC ≤ 0.01

Degradability Non-rapidly degradable

M factor (Chronic) 10

12.2. Persistence and degradability

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 The product is 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 The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Special Provisions note

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

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14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/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

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78
and the IBC Code

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

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. IATA: International Air Transport Association. IMDG: International Maritime Dangerous Goods. 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. vPvB: Very Persistent and Very Bioaccumulative. EC ₅₀ : 50% of maximal Effective Concentration. UN: United Nations.
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Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	27/07/2017
Revision	2.1

KR1 WASHING UP LIQUID

Supersedes date	06/07/2015
Risk phrases in full	Not classified. R23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R34 Causes burns. R36/38 Irritating to eyes and skin. R38 Irritating to skin. R41 Risk of serious damage to eyes. R43 May cause sensitisation by skin contact. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Hazard statements in full	H226 Flammable liquid and vapour. H301 Toxic if swallowed. H304 May be fatal if swallowed and enters airways. H311 Toxic in contact with skin. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H331 Toxic if inhaled. 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. H412 Harmful to aquatic life with long lasting effects. EUH208 Contains METHYL-2H or METHYL-4 (3:1) Mixture of EC NO 220-239-6. May produce an allergic reaction.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.