SAFETY DATA SHEET
LEGEND - KETTLE DESCALER

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

1.1. Product identifier

Product name	LEGEND - KETTLE DESCALER
Product number	LEGM-FZ3033-SDN
Internal identification	2021
Container size	1L

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

Identified uses	Kettle descaler.
Uses advised against	Not for direct contact with Food or Beverage stuffs. Not for oral consumption. Must not be used where Hypochlorite based chemicals (Bleach) are present. Do not use on Aluminium.

1.3. Details of the supplier of the safety data sheet

Supplier	UK - Merlin Chemicals Ltd. Unit 5 Passfield Mill Business Park, Liphook, Hampshire, GU30 7RR Tel: +44 (0)1428 751122 email: technical@kersia-group.com EU - Kersia Deutschland GmbH, Marie-Curie-Straße 23 53332 Bornheim - Sechtem

1.4. Emergency telephone number

Emergency telephone	Out of Office Hours Emergency Information:- For accidents and spillages involving this product that pose a threat to the environment, or human health, or require immediate first aid advice call:- +44(0) 7050 265597. Note:- This number will not accept order queries or calls dealing with equipment breakdowns. UK Environment Agency 24hour Advisory Service 0800 807060. Irish Environmental Protection Agency 1890 335599 (This is a Lo Call Number)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Met. Corr. 1 - H290
Health hazards	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319
Environmental hazards	Not Classified

2.2. Label elements

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Hazard pictograms

Signal word	Warning
Hazard statements	H290 May be corrosive to metals. H315 Causes skin irritation. H319 Causes serious eye irritation.
Precautionary statements	P234 Keep only in original packaging. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+P313 If skin irritation occurs: Get medical advice/ attention. P337+P313 If eye irritation persists: Get medical advice/ attention.
Detergent labelling	15 - < 30% phosphates
Supplementary precautionary statements	P404 Store in a closed container. P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB. Note: "H290 May Be Corrosive to Metals" relates to the concentrated product.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

PHOSPHORIC ACID		**10-<25%**
CAS number: 7664-38-2	EC number: 231-633-2	REACH registration number: 01-2119485924-24
Classification Met. Corr. 1 - H290 Skin Corr. 1B - H314 Eye Dam. 1 - H318		

The full text for all hazard statements is displayed in Section 16.

Composition comments To the best of our knowledge, all of the substances used in this product are being supported for the relevent application in REACH. In use solutions are expected to be safe on Stainless Steels and Soft Metals such as Aluminium. The classification is based on Specific Concentration Limits.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.

Ingestion Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.

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Skin contact Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if irritation persists after washing.

Eye contact Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

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

General information Neat product may cause irritation to skin and eyes. Dilute chemical may result in mild irritation to skin. Contact of dilute chemical with eyes should still be treated as outlined above.

Inhalation Unlikely route of exposure. Inhalation of sprayed droplets may result in soreness of the throat, mouth and nose. If mixed with Hypochlorite based products (Bleach) Chlorine Gas may be evolved, this can result in irritation to eyes and difficulty in breathing. If inhaled this may result in irritation to the mouth, nose and respiratory tract.

Ingestion Unlikely route of exposure without deliberate abuse. If neat chemical is ingested, irritation of the mouth, throat and GI tract may occur. If dilute chemical is ingested some soreness of the mouth, throat and GI tract may occur.

Skin contact Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Use solutions may cause mild irritation, especially to open cuts and abrasions.

Eye contact Irritating to eyes.

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

Notes for the doctor Rinse well with water to neutral pH.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards This product is non combustible, on heating corrosive vapours may be formed. Reactions with some metals can produce flammable hydrogen gas.

5.3. Advice for firefighters

Protective actions during firefighting Protective clothing and respiratory protection should be worn when tackling fires involving this product. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. Avoid or minimise the creation of any environmental contamination.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if safe to do so. Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable labelled containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

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Reference to other sections See sections 8,12 & 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. Read and follow manufacturer's recommendations.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Store below 40°C.

7.3. Specific end use(s)

Specific end use(s) Acidic descaler. Refer to use instructions.

Usage description Use as instructed on the product information sheet.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

PHOSPHORIC ACID

Long-term exposure limit (8-hour TWA): WEL 1 mg/m³
Short-term exposure limit (15-minute): WEL 2 mg/m³
WEL = Workplace Exposure Limit

Ingredient comments Where an exposure level is quoted, a risk assessment should consider if there is a need to monitor the atmosphere of the working environment. Results should be compared against the WEL and/or DNEL information provided. The Long Term WEL refers to total exposure of a worker to a specific substance averaged out over an 8 hour period.
The Short Term WEL refers to a single exposure of a worker to a specific substance over a 15 minute period.
If the Short Term WEL is exceeded and no Long Term Limit is set, further exposure during the working shift is not permitted. Further controls should be implemented to ensure that future exposure to the substance is reduced below the levels set before the activity is repeated/continued. Where no Short Term WEL exists, guidance from the HSE is to use a value of three times the Long Term WEL.
The WEL limits are laid down in the EH40 list as supplied by the HSE. Where a worker is exposed to levels approaching a limit, further exposure control measures should be considered to reduce exposure to the substance. DNEL and/or PNEC information is supplied by manufacturers of substances in accordance with REACH legislation (Regulation (EC) No 1907/2006) , and is used to provide suitable risk reduction measures to limit exposure of the user of the substance to a non hazardous level. If the measured level of exposure by a route divided by the DNEL for the route is greater than 1, then further exposure controls should be implemented as described in section 8.2. Where new information becomes available under REACH, this will be passed on as revisions to the Safety Data Sheet.

PHOSPHORIC ACID (CAS: 7664-38-2)

DNEL - Inhalation; Long term local effects: 2.92 mg/m³

8.2. Exposure controls

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Protective equipment

Appropriate engineering controls	Not applicable.
Personal protection	The PPE indicated above is not a COSHH assessment. It represents PPE that should be considered during the manufacture, distribution, use and final disposal stages of this product's life cycle. It is the responsibility of employers to conduct a COSHH/risk assessment to determine appropriate PPE levels. The information given below should be used to support this assessment. Where possible replace manual processes with automated or closed processes to minimise contact with the product.
Eye/face protection	Wear approved, tight fitting safety glasses where splashing is probable. Refer to EN Standard 166 to select appropriate level of protection.
Hand protection	Rubber (natural, latex). Neoprene. Polyvinyl chloride (PVC). Refer to Standard EN 374 and EN 16523
Other skin and body protection	Provide eyewash station. Wear suitable protective clothing as protection against splashing or contamination. Reference to EN 13832 and EN 943 is useful when selecting footwear and clothing.
Hygiene measures	Promptly remove non-impervious clothing that has become contaminated, provided it is not adhered to the skin. Wash contaminated clothing before reuse. Provide eyewash station and safety shower.
Respiratory protection	No specific recommendation made, but respiratory protection must be used if the general level exceeds the Workplace Exposure Limit.
Environmental exposure controls	Do not allow the substance to contaminate surface water/ground water. See points 6, 12 &13.
General Health and Safety Measures.	Note:- In use solutions at recommended dilution are not classified, but a risk assessment to determine PPE should be conducted.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Yellow.
Odour	Characteristic.
Odour threshold	Not applicable.
pH	pH (concentrated solution): 1-2
Melting point	Not applicable.
Initial boiling point and range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Evaporation factor	Not applicable.
Flammability (solid, gas)	Not applicable.

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Upper/lower flammability or explosive limits	Not applicable.
Other flammability	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	1.09 - 1.10
Bulk density	Not applicable.
Solubility(ies)	Soluble in water.
Partition coefficient	Not applicable. Not technically practical for mixtures.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not applicable.
Viscosity	Not determined.
Explosive properties	Not applicable.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Not applicable. Contains no Oxidising Components.

9.2. Other information

Refractive index	Not applicable.
Particle size	Not applicable.
Molecular weight	Not applicable.
Volatility	Not applicable.
Saturation concentration	Not applicable.
Critical temperature	Not applicable.
Volatile organic compound	Not applicable.
Explosive Properties	Not Classified as Explosive
Storage Temperature Range	0 - 40°C

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Not expected to react when correctly stored and used. Mixing with other chemicals may produce unexpected reactions.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. - See note 10.6.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Refer to section 10.1. Reacts with alkalis and generates heat. Do not mix with Hypochlorite based chemicals, this will result in the generation of toxic chlorine gas. In contact with soft metals such as Aluminium, Hydrogen gas may be produced - Comments refers to the neat product.

10.4. Conditions to avoid

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Conditions to avoid Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid Strong alkalis. Bleach. Contact with some metals can liberate highly flammable hydrogen gas which may form explosive mixtures with air. Note:- Comment refers to neat product.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. - See section 10.5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General information See section 4.2.

Inhalation Unlikely route of exposure. Inhalation of sprayed droplets may result in soreness of the throat, mouth and nose. - See section 4.2.

Ingestion May cause irritation to mouth, throat and GI tract.

Skin contact Irritating to skin.

Eye contact Irritating to eyes.

SECTION 12: Ecological information

Ecotoxicity This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Dilute use solutions are unlikely to pose a risk to the environment.

12.1. Toxicity

12.2. Persistence and degradability

Persistence and degradability This product consists mainly of inorganic components for which biodegradation assessment is not applicable. The product meets the requirements of the European Detergents Regulation 648/2004 as amended.

12.3. Bioaccumulative potential

Bioaccumulative potential Not expected to bioaccumulate.

Partition coefficient Not applicable. Not technically practical for mixtures.

12.4. Mobility in soil

Mobility The product contains substances which are water soluble and may spread in water systems.

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

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General information	When handling waste, the safety precautions applying to handling of the product should be considered. 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. Do not mix with other chemicals.
Disposal methods	Small volumes of use solution can be disposed of to sewers.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1805
UN No. (IMDG)	1805
UN No. (ICAO)	1805
UN No. (ADN)	1805

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	PHOSPHORIC ACID, SOLUTION
Proper shipping name (IMDG)	PHOSPHORIC ACID, SOLUTION
Proper shipping name (ICAO)	PHOSPHORIC ACID, SOLUTION
Proper shipping name (ADN)	PHOSPHORIC ACID, SOLUTION

14.3. Transport hazard class(es)

ADR/RID class	8
ADR/RID classification code	C1
ADR/RID label	8
IMDG class	8
ICAO class/division	8
ADN class	8

Transport labels

14.4. Packing group

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

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-A, S-B

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ADR transport category	3
Emergency Action Code	2R
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

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

SECTION 15: Regulatory information

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

National regulations	UK Adoption and Implementation of the UN Globally Harmonised System (GHS) on Classification and Labelling of Chemicals (GB CLP) and considers UK National REACH legislation.
EU legislation	European Regulation (EC) No 1272/2008 (as amended) on Classification, Labelling and Packaging of Substances and Mixtures. Also considered is the REACH Regulation (EC) No.1907/2006 (as amended).

15.2. Chemical safety assessment

Pcs Information

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	(EC) No. 1272/2008 : EU Regulation on Classification, Labelling and Packaging of Substances and Mixtures. NPIS - National Poisons Information Service. vPvB - Very Persistent, Very bioaccumulative. PBT - Persistent, Bioaccumulative & Toxic. REACH - Registration, Evaluation, Authorisation & restriction of CHemicals (Regulation EC 1907/2006). DNEL - Derived No Effect Limit. PNEC - Predicted No Effect Concentration. COSHH - Control of Substances Hazardous to Health. Industry - Refers in section 8 to application of the substance in an industrial process. Professional - Refers in section 8 to application/use of the preparation/product in a skilled trade premises.
General information	This document is a Safety Data Sheet, NOT a CoSHH assessment. It is the customer's responsibility to conduct a full CoSHH assessment, taking into account the information held within this document along with other local factors considered in a risk assessment. The Risk and Hazard statements listed below are the full text of abbreviations used in this document. They are not the final classification, for this refer to section 2.
Revision comments	No Change to Formulation, or Classification, SDS re-issued to comply with UK Post Brexit legislation references.
Revision date	01/12/2020
SDS number	25654

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Hazard statements in full	H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation.
REACH extended MSDS comments	REACH requires that persons handling chemicals should take the necessary risk management measures, in accordance with assessments from manufacturers and importers of chemical substances. The relevent recommendations must be passed along the supply chain. These assessments are generally reported in Exposure Scenarios. Where Exposure Scenarios have been provided for substances used in this product, the relevent information is incorporated into the safety data sheet.
END OF SAFETY DATA SHEET	