

# SAFETY DATA SHEET

## UNIVERSAL KETTLE DESCALER

According to Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.

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

#### 1.1. Product identifier

**Product name** UNIVERSAL KETTLE DESCALER

#### 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** MERLIN CHEMICALS  
UNIT 5, PASSFIELD MILL INDUSTRIAL PARK, LIPHOOK, HAMPSHIRE, GU30 7RR  
+44 (0) 1428 751122  
+44 (0) 1428 751133  
technical@merlinchemicals .co.uk

#### 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.

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification

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

#### 2.2. Label elements

##### Pictogram



**Signal word** Warning

**Hazard statements** H290 May be corrosive to metals.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.

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**Precautionary statements**

P234 Keep only in original container.  
 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

<b>PHOSPHORIC ACID</b>		<b>10-30%</b>
CAS number: 7664-38-2	EC number: 231-633-2	REACH registration number: 01-2119485924-24
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>	
Met. Corr. 1 - H290	C;R34.	
Skin Corr. 1B - H314		

The Full Text for all R-Phrases and Hazard Statements are 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 relevant application in REACH. In use solutions are expected to be safe on Stainless Steels and Soft Metals such as Aluminium.

## 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.

**Skin contact** Remove contaminated clothing immediately and wash skin with soap and 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.

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<b>Inhalation</b>	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.
<b>Ingestion</b>	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.
<b>Skin contact</b>	Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Use solutions may cause mild irritation, especially to open cuts and abrasions.
<b>Eye contact</b>	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**

**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**

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**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/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 2 mg/m<sup>3</sup>

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. This is taken from the Chemical Agents Directive (98/24/EC). 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/m<sup>3</sup>

### 8.2. Exposure controls

#### Protective equipment



**Appropriate engineering controls**

Not applicable.

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<b>Personal protection</b>	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.
<b>Eye/face protection</b>	Wear approved, tight fitting safety glasses where splashing is probable. Refer to EN Standard 166 to select appropriate level of protection.
<b>Hand protection</b>	Rubber (natural, latex). Neoprene. Polyvinyl chloride (PVC). Refer to Standard EN 374.
<b>Other skin and body protection</b>	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.
<b>Hygiene measures</b>	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.
<b>Respiratory protection</b>	No specific recommendation made, but respiratory protection must be used if the general level exceeds the Workplace Exposure Limit.
<b>Environmental exposure controls</b>	Do not allow the substance to contaminate surface water/ground water. See points 6, 12 & 13.
<b>General Health and Safety Measures.</b>	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

<b>Appearance</b>	Liquid
<b>Colour</b>	Yellow.
<b>Odour</b>	Characteristic.
<b>Odour threshold</b>	Not applicable.
<b>pH</b>	pH (concentrated solution): 1-2
<b>Melting point</b>	Not applicable.
<b>Initial boiling point and range</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Evaporation factor</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	Not applicable.
<b>Other flammability</b>	Not applicable.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	1.09 - 1.10

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<b>Bulk density</b>	Not applicable.
<b>Solubility(ies)</b>	Soluble in water.
<b>Partition coefficient</b>	Not applicable. Not technically practical for mixtures.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition Temperature</b>	Not applicable.
<b>Viscosity</b>	Not determined.
<b>Explosive properties</b>	Not applicable.
<b>Explosive under the influence of a flame</b>	Not considered to be explosive.
<b>Oxidising properties</b>	Not applicable. Contains no Oxidising Components.

### 9.2. Other information

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

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

<b>Reactivity</b>	Not expected to react when correctly stored and used. Mixing with other chemicals may produce unexpected reactions.
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### 10.2. Chemical stability

<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended. - See note 10.6.
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### 10.3. Possibility of hazardous reactions

<b>Possibility of hazardous reactions</b>	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.
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### 10.4. Conditions to avoid

<b>Conditions to avoid</b>	Avoid excessive heat for prolonged periods of time.
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### 10.5. Incompatible materials

<b>Materials to avoid</b>	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.
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### 10.6. Hazardous decomposition products

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**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

**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

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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
ADN packing group	III
ICAO packing group	III

### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

### 14.6. Special precautions for user

EmS	F-A, S-B
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 MARPOL73/78 and the IBC Code



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### SECTION 15: Regulatory information

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

**EU legislation** European Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.  
This replaces Directive 67/548/EEC - Classification, Packaging and Labelling of Dangerous Substances and Regulation (EC) No. 453/2010 relating to the Classification, Packaging and Labelling of Dangerous Preparations. Also considered is the REACH Regulation (EC) No.1907/2006.

#### 15.2. Chemical safety assessment

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** Review in line with CLP Regulation.

**Revision date** 01/05/2015

**SDS number** 21480

**Hazard statements in full** H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
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 relevant 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 relevant information is incorporated into the safety data sheet.

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.