

SAFETY DATA SHEET

UNIVERSAL 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 DESCALER

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

Identified uses Descaler. For professional use only.

Uses advised against Not for direct contact with Food or Beverage stuffs. Not for oral consumption. Use of this product for cleaning by hand is not recommended. Must not be used where Hypochlorite based chemicals (Bleach) are present. Must not be used in contact with Copper or its Alloys.

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 Corr. 1B - H314

Environmental hazards Not Classified

2.2. Label elements

Pictogram



Signal word Danger

Hazard statements H314 Causes severe skin burns and eye damage.
H290 May be corrosive to metals.

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Precautionary statements	<p>P234 Keep only in original container.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P313 Get medical advice/attention.</p> <p>P405 Store locked up.</p>
Contains	PHOSPHORIC ACID, NITRIC ACID
Detergent labelling	15 - < 30% phosphates
Supplementary precautionary statements	<p>P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P501 Dispose of contents/container in accordance with national regulations.</p>

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 10-30%		
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	Classification (67/548/EEC or 1999/45/EC) C;R34.	
NITRIC ACID 10-30%		
CAS number: 7697-37-2	EC number: 231-714-2	
Classification Ox. Liq. 3 - H272 Met. Corr. 1 - H290 Skin Corr. 1A - H314	Classification (67/548/EEC or 1999/45/EC) O; R8. C; R35	

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.
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SECTION 4: First aid measures

4.1. Description of first aid measures

General information	When it is safe to do so, remove victim immediately from source of exposure. However, consideration should be given as to whether moving the victim will cause further injury.
Inhalation	Remove affected person from source of contamination. Provide rest, warmth and fresh air. If breathing stops, provide artificial respiration. Get medical attention if any discomfort continues.

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Ingestion	Do not induce vomiting. Rinse mouth thoroughly. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention.
Skin contact	Remove contaminated clothing that is not stuck to the skin. Flush area with clean water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
Eye contact	Remove any contact lenses and open eyelids wide apart. Promptly wash eyes with plenty of water while lifting the eyelids. Continue to rinse for at least 15 minutes and get medical attention.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

General information	Neat product may cause chemical burns and permanent eye damage. Dilute product may cause irritation to the skin and eyes.
Inhalation	This product is corrosive. Inhalation of neat product is unlikely. However, inhalation of vapours from hot surfaces, or sprayed droplets may result in severe burns to the mouth, nose, GI tract and airways. 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, chemical burning of mouth, throat and GI tract will occur. If dilute chemical is ingested, soreness of mouth, throat and GI tract may occur together with redness and blistering.
Skin contact	Causes severe burns.
Eye contact	May cause chemical eye burns. May result in permanent eye damage.

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

Notes for the doctor	Rinse well with water to neutral pH. If mixed with bleach will produce Chlorine Gas, check for respiratory disorders. If mixed with Copper and its alloys toxic NO(x) gas is produced.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	This product will not support combustion and is not flammable. Use an extinguishing media suitable for surrounding materials.
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5.2. Special hazards arising from the substance or mixture

Specific hazards	This product is non combustible, on heating corrosive vapours may be formed. Contact with Sodium Hypochlorite or products containing Sodium Hypochlorite will liberate Chlorine Gas. Toxic gases are formed when in contact with Copper and its Alloys (Brass).
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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.
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6.2. Environmental precautions

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Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

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. Stop leak if possible without risk. Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Neutralise small amounts with sodium bicarbonate or lime and flush to sewer with large amounts of water.

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 appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Refer to section 8.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed. Keep away from chlorinated and alkaline products. Store below 40°C.

7.3. Specific end use(s)

Specific end use(s) Acidic detergent. Refer to Product Information Sheet.

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

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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/m³

NITRIC ACID (CAS: 7697-37-2)

DNEL Professional - Inhalation; Long term local effects: 1.3 mg/m³
Professional - Inhalation; Acute local effects: 2.6 mg/m³

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist.

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 full-face visor or shield. Refer to EN Standard 166 to select appropriate level of protection.

Hand protection

Impervious Chemical Resistant Gloves of Butyl Rubber, PVC, Polychloroprene with a natural latex liner, all with a minimum material thickness 0.5mm and a breakthrough time of >480mins. Alternatively Nitrile Rubber, Fluorinated Rubber, both with a minimum thickness of 0.35 - 0.4mm and a breakthrough time of >480minutes. Refer to Standard EN 374.

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Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible. 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. Contaminated clothing and shoes must be discarded. 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. Discharge of solutions into effluent systems (including municipal drains) or to surface water are expected to cause significant pH changes. Discharge of solutions should be carried out such that pH changes are minimised. Where necessary pH buffering measures should be adopted. Users of this product should consult local drainage and permitting authorities to ensure that any restrictions or discharge consents are adhered to.
General Health and Safety Measures.	The above requirements refer to the neat chemical. In-use solutions may have a lower classification, however, a full risk assessment should be carried out before handling any chemical(s). Risk assessments should refer to COSHH and any other relevant legislation or industry specific guidelines governing the use of chemicals. Note Descaling operations are likely to produce CO ₂ gas. It is essential that for large operations ventilation is provided.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Colourless.
Odour	Acrid.
Odour threshold	Not applicable.
pH	pH (concentrated solution): 2 - 3
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.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	1.180 - 1.200
Bulk density	Not applicable.
Solubility(ies)	Soluble in water.
Partition coefficient	Not applicable.
Auto-ignition temperature	Not applicable.

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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	Does not meet the criteria for classification as oxidising.
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	Stable under normal temperature conditions and recommended use. Avoid contact with caustic/alkaline material; this will generate heat and potentially corrosive vapour. Avoid contact with Hypochlorite based products; this will produce toxic Chlorine gas. Reaction with Copper and its Alloys will produce a noxious green (NOx) gas.
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10.2. Chemical stability

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

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

Materials to avoid	Alkalis. Bleach. Contact with some metals can liberate highly flammable hydrogen gas which may form explosive mixtures with air. Reaction with Copper and Brass can produce toxic green NOx gases. Note:- Comment refers to neat product.
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10.6. Hazardous decomposition products

Hazardous decomposition products	No specific hazardous decomposition products noted. - See section 10.5.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

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General information	Toxic effect linked with corrosive properties. See section 4.2.
Inhalation	Inhalation of sprayed droplets or vapours from hot surfaces may result in severe burns to the mouth, nose, GI tract and airways. - See section 4.2.
Ingestion	Causes severe burns. May cause chemical burns in mouth, oesophagus and stomach.
Skin contact	Causes severe burns.
Eye contact	Risk of serious damage to eyes. May cause permanent eye injury.

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. High concentrations in receiving waters will damage aquatic life due to the effects of low pH. Low concentrations may act as plant nutrient or precipitate heavy metals. Dilute use solutions are unlikely to pose a risk to the environment.

12.1. Toxicity

Acute toxicity - fish This mixture is not classified as toxic to aquatic organisms. Normal use of the diluted product is not expected to pose any risk. See note 12.0

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.

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. Do not mix with other chemicals. 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

14.1. UN number

UN No. (ADR/RID) 3264

UN No. (IMDG) 3264

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UN No. (ICAO) 3264

UN No. (ADN) 3264

14.2. UN proper shipping name

Proper shipping name (ADR/RID) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS PHOSPHORIC ACID, NITRIC ACID)

Proper shipping name (IMDG) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS PHOSPHORIC ACID, NITRIC ACID)

Proper shipping name (ICAO) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS PHOSPHORIC ACID, NITRIC ACID)

Proper shipping name (ADN) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS PHOSPHORIC ACID, NITRIC ACID)

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 II

IMDG packing group II

ADN packing group II

ICAO packing group II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS F-A, S-B

ADR transport category 2

Emergency Action Code 2X

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

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.
COSHH - Control of Substances Hazardous to Health.
DNEL - Derived No Effect Limit.
Industry - Refers in section 8 to application of the substance in an industrial process.
NPIS - National Poisons Information Service.
PBT - Persistent, Bioaccumulative & Toxic.
Professional - Refers in section 8 to application/use of the preparation/product in a skilled trade premises.
REACH - Registration, Evaluation, Authorisation & restriction of CHemicals (Regulation EC 1907/2006).
vPvB - Very Persistent, Very bioaccumulative.

General information Only trained personnel should use this material. 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 21157

Hazard statements in full H272 May intensify fire; oxidiser.
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

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.