

# SAFETY DATA SHEET

## ADMIRAL CONCENTRATED 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** ADMIRAL CONCENTRATED 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. 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 Corr. 1B - H314

**Environmental hazards** Not Classified

#### 2.2. Label elements

##### Pictogram



**Signal word** Danger

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

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<b>Precautionary statements</b>	<p>P234 Keep only in original container.</p> <p>P280 Wear protective clothing, gloves, eye and 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>P501 Dispose of contents/container in accordance with national regulations.</p>
<b>Contains</b>	HYDROCHLORIC ACID
<b>Detergent labelling</b>	< 5% amphoteric surfactants
<b>Supplementary precautionary statements</b>	<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>P405 Store locked up.</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

<b>HYDROCHLORIC ACID</b>			<b>5-10%</b>
CAS number: 7647-01-0	EC number: 231-595-7	REACH registration number: 01-2119484862-27	
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>		
Met. Corr. 1 - H290	C;R34. Xi;R37.		
Skin Corr. 1B - H314			
STOT SE 3 - H335			
<b>BETAINES, BIS(HYDROXYETHYL)TALLOW ALKYL</b>			<b>1-5%</b>
CAS number: 70750-46-8	EC number: 274-845-0		
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>		
Skin Irrit. 2 - H315	Xi; R36/38		
Eye Irrit. 2 - H319			
<b>PROPAN-2-OL</b>			<b>&lt;1%</b>
CAS number: 67-63-0	EC number: 200-661-7	REACH registration number: 01-2119457558-25	
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>		
Flam. Liq. 2 - H225	F;R11 Xi;R36 R67		
Eye Irrit. 2 - H319			
STOT SE 3 - H336			

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

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**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. Note:- Corrosion to Metals H290 statement refers to Soft Metals such as Aluminium or Copper, this product is not expected to corrode 304 or 316 Stainless Steel.

### 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.

**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.

**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.

### 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.

#### 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).

#### 5.3. Advice for firefighters

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**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.

#### 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 only in the original container in a cool, well-ventilated place. Keep above chemical's freezing (melting) point. Keep away from chlorinated and alkaline products. Avoid Aluminium.

#### 7.3. Specific end use(s)

**Specific end use(s)** Detergent / Descaler - Refer to use instructions.

**Usage description** Use as instructed on the product information sheet. This product is suitable for use in food preparation areas, but is not designed for direct food contact.

### SECTION 8: Exposure Controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

##### HYDROCHLORIC ACID

Long-term exposure limit (8-hour TWA): WEL 1 ppm 2 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 5 ppm 8 mg/m<sup>3</sup>

##### PROPAN-2-OL

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m<sup>3</sup>

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.

### HYDROCHLORIC ACID (CAS: 7647-01-0)

<b>DNEL</b>	Workers - Inhalation; Acute local effects: 15 mg/m <sup>3</sup> Workers - Inhalation; Long term local effects: 8 mg/m <sup>3</sup>
<b>PNEC</b>	- Fresh water; 36 µg/l - Marine water; 36 µg/l - Intermittent release; 45 µg/l - STP; 36 µg/l

### PROPAN-2-OL (CAS: 67-63-0)

<b>DNEL</b>	Professional - Dermal; 1 d Chronic effects: 888 mg/kg Professional - Inhalation; Chronic effects: 500 mg/m <sup>3</sup>
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### 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.

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<b>Eye/face protection</b>	Wear full-face visor or shield. Refer to EN Standard 166 to select appropriate level of protection.
<b>Hand protection</b>	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.
<b>Other skin and body protection</b>	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.
<b>Hygiene measures</b>	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.
<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. 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.
<b>General Health and Safety Measures.</b>	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.

### SECTION 9: Physical and Chemical Properties

#### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Liquid
<b>Colour</b>	Colourless.
<b>Odour</b>	Characteristic.
<b>Odour threshold</b>	Not applicable.
<b>pH</b>	pH (concentrated solution): 2 - 3
<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>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	1.04 - 1.05

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<b>Bulk density</b>	Not applicable.
<b>Solubility(ies)</b>	Soluble in water.
<b>Partition coefficient</b>	Not applicable.
<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>	Does not meet the criteria for classification as oxidising.

### 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>	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.
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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.
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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>	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

<b>Hazardous decomposition products</b>	No specific hazardous decomposition products noted. - See section 10.5.
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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<b>General information</b>	Toxic effect linked with corrosive properties. See section 4.2.
<b>Inhalation</b>	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.
<b>Ingestion</b>	Causes severe burns. May cause chemical burns in mouth, oesophagus and stomach.
<b>Skin contact</b>	Causes severe burns.
<b>Eye contact</b>	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** The surfactant(s) used in this preparation complies (comply) with the biodegradability criteria as laid down in the European Detergents Regulation No 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



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UN No. (ADR/RID)	1760
UN No. (IMDG)	1760
UN No. (ICAO)	1760
UN No. (ADN)	1760

### 14.2. UN proper shipping name

Proper shipping name (ADR/RID) CORROSIVE LIQUID, N.O.S. (CONTAINS HYDROCHLORIC ACID)

Proper shipping name (IMDG) CORROSIVE LIQUID, N.O.S. (CONTAINS HYDROCHLORIC ACID)

Proper shipping name (ICAO) CORROSIVE LIQUID, N.O.S. (CONTAINS HYDROCHLORIC ACID)

Proper shipping name (ADN) CORROSIVE LIQUID, N.O.S. (CONTAINS HYDROCHLORIC ACID)

### 14.3. Transport hazard class(es)

ADR/RID class	8
ADR/RID classification code	C9
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	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** 17/03/2015

**Revision** 1

**SDS number** 20963

**Hazard statements in full** H225 Highly flammable liquid and vapour.  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.

**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.

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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.