



SAFETY DATA SHEET DW2 HARD WATER RINSE AID

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

1.1. Product identifier

Product name DW2 HARD WATER RINSE AID

Internal identification C861

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

Identified uses Machine rinse additive

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 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319

Environmental hazards Not Classified

2.2. Label elements

Pictogram



Signal word Warning

Hazard statements H315 Causes skin irritation.
H319 Causes serious eye irritation.

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Precautionary statements

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.
 P501 Dispose of contents/ container in accordance with national regulations.
 P280 Wear protective gloves, eye and face protection.

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

FATTY ALCOHOL ALKOXYLATE			5-10%
CAS number: —			
Classification			
Skin Irrit. 2 - H315			
Eye Irrit. 2 - H319			
CITRIC ACID			5-10%
CAS number: 77-92-9	EC number: 201-069-1	REACH registration number: 01-21194570026-42-xxxx	
Classification			
Eye Irrit. 2 - H319			
SODIUM XYLENE SULPHONATE			1-5%
CAS number: 1300-72-7	EC number: 215-090-9	REACH registration number: 01-2119513350-56-xxxx	
Classification			
Eye Irrit. 2 - H319			
FATTY ALCOHOL ALKOXYLATE			1-5%
CAS number: —	REACH registration number: 02-2119552554-37-0000		
Classification			
Acute Tox. 4 - H302			
Eye Irrit. 2 - H319			
Aquatic Chronic 3 - H412			

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.

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

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

Inhalation	Coughing, chest tightness, feeling of chest pressure.
Ingestion	May cause discomfort if swallowed.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.

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: Carbon monoxide (CO). Carbon dioxide (CO ₂). 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. Avoid contact with skin, eyes and clothing. Provide adequate ventilation. Take care as floors and other surfaces may become slippery. Wash thoroughly after dealing with a spillage. Do not touch or walk into spilled material. 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

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Reference to other sections For personal protection, see Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Provide adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid release to the environment. Do not reuse empty containers. Do not empty into drains. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

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

Occupational exposure limits

CITRIC ACID

Short-term exposure limit (15-minute): WEL 10 mg/m³ dust only

Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ dust only

WEL = Workplace Exposure Limit

CITRIC ACID (CAS: 77-92-9)

PNEC

- Fresh water; 0.44 mg/l
- Marine water; 0.044 mg/l
- Sediment (Freshwater); 7.52 mg/kg
- Sediment (Marinewater); 0.752 mg/kg
- Soil; 29.2 mg/kg

SODIUM XYLENE SULPHONATE (CAS: 1300-72-7)

DNEL

Workers - Inhalation; Long term systemic effects: 26.9 mg/m³
 Workers - Dermal; Long term systemic effects: 136.25 mg/kg/day
 Workers - Dermal; Long term local effects: 0.096 mg/cm²
 Consumer - Inhalation; Long term systemic effects: 6.6 mg/m³
 Consumer - Dermal; Long term systemic effects: 68.1 mg/kg
 Consumer - Dermal; Long term local effects: 0.048 mg/cm²
 Consumer - Oral; Long term systemic effects: 3.8 mg/kg/day

PNEC

Fresh water; 0.23 mg/l
 Marine water; 0.023 mg/l
 Intermittent release; 2.3 mg/l
 Sediment (Freshwater); 0.862 mg/kg
 Sediment (Marinewater); 0.0862 mg/kg
 Soil; 0.037 mg/kg
 STP; 100 mg/l

8.2. Exposure controls

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Protective equipment



Appropriate engineering controls

Provide adequate ventilation.

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: Tight-fitting safety glasses. 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. The most suitable glove should be chosen in consultation with the glove supplier/manufacture, who can provide information about the breakthrough time of the glove material. 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. Protective gloves should have a minimum thickness of 0.15 mm. Glove thickness is not necessarily a good measure of glove resistance as the permeation rate will depend on the exact glove composition. Gloves made from the following material may provide suitable chemical protection: Neoprene. 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 after handling.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Dark. Blue.
Odour	Detergent.
pH	pH (concentrated solution): 2.0 - 2.5
Relative density	1.04 @ 25°C
Solubility(ies)	Soluble in water.

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 Reacts with alkalis and generates heat.

10.5. Incompatible materials

Materials to avoid Avoid contact with alkalis.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances:
Carbon monoxide (CO). Carbon dioxide (CO₂). Sulphurous gases (SO_x).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Skin corrosion/irritation

Extreme pH Moderate pH (> 2 and < 11.5). Based on available data the classification criteria are not met.

Inhalation Coughing, chest tightness, feeling of chest pressure.

Ingestion May cause discomfort if swallowed.

Skin contact Causes skin irritation.

Eye contact Causes serious eye irritation.

Toxicological information on ingredients.

FATTY ALCOHOL ALKOXYLATE

Acute toxicity - oral

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

Species Rat

CITRIC ACID

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,400.0

Species Mouse

ATE oral (mg/kg) 5,400.0

Acute toxicity - dermal

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

Species Rat

ATE dermal (mg/kg) 2,001.0

SODIUM XYLENE SULPHONATE

Acute toxicity - oral

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Acute toxicity oral (LD₅₀ 7,200.0
mg/kg)

Species Rat

Acute toxicity - dermal

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

Species Rabbit

FATTY ALCOHOL ALKOXYLATEAcute toxicity - oral

ATE oral (mg/kg) 500.0

SECTION 12: Ecological Information

Ecotoxicity Not regarded as dangerous for the environment.

12.1. ToxicityAcute aquatic toxicity

Acute toxicity - fish Not determined.

Ecological information on ingredients.FATTY ALCOHOL ALKOXYLATEAcute aquatic toxicity

Acute toxicity - fish LC₅₀, 48 hours: 1-10 mg/l,

Acute toxicity - aquatic EC₅₀, 48 hours: 1-10 mg/l, Daphnia magna
invertebrates

CITRIC ACIDAcute aquatic toxicity

Acute toxicity - fish LC₅₀, 48 hours: 440 mg/l,
LC₅₀, 96 hours: 440 - 706 mg/l, Fish

SODIUM XYLENE SULPHONATEAcute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: >400 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic EC₅₀, 48 hours: >408 mg/l, Daphnia magna
invertebrates

Acute toxicity - aquatic IC₅₀, 72 hours: 310 mg/l, Algae
plants

FATTY ALCOHOL ALKOXYLATEAcute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: >10 mg/l, Leuciscus idus (Golden orfe)

Acute toxicity - aquatic EC₅₀, 48 hours: >10 mg/l, Daphnia magna
invertebrates

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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 available.

14.3. Transport hazard class(es)

Transport labels

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**

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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 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. GHS: Globally Harmonized System. 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). PBT: Persistent, Bioaccumulative and Toxic substance. PNEC: Predicted No Effect Concentration. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. vPvB: Very Persistent and Very Bioaccumulative. EC ₅₀ : 50% of maximal Effective Concentration. UN: United Nations. DNEL: Derived No Effect Level.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	27/09/2018
Revision	3.1
Supersedes date	07/02/2017
Hazard statements in full	H315 Causes skin irritation. H319 Causes serious eye irritation.

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.