Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II and Regulation (EC) No. 1272/2008 (CLP)

SAFETY DATA SHEET

DS-40 System Cleaner 1.9Kg (Box of 6)

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

1.1 Product identifier

Product name : **DS-40 System Cleaner 1.9Kg (Box of 6)**

Product code : 61102

Product description : Not available.

Product type : Solid.

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

Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

: **Alpha, Alent plc**
Forsyth Road
Sheerwater
Woking
Surrey
England
GU21 5RZ
Tel: +44(0)1483 758400
Fax: +44(0)1483 728837

Manufacturer : Alpha, Alent plc
Forsyth Road
Sheerwater
Woking
Surrey
England
GU21 5RZ
Tel: +44(0)1483 758400
Fax: +44(0)1483 728837

Contact person : **europeanregulatory@alent.com**

Emergency phone: **+44 1483 758400**

Material uses : Water-conditioning agent.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Eye Irrit. 2, H319

Ingredients of unknown toxicity :

Ingredients of unknown ecotoxicity :

Classification according to Directive 1999/45/EC [DPD]

Europe

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

SECTION 2: Hazards identification

Classification : Xi; R36

Human health hazards : Irritating to eyes.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Causes serious eye irritation.

Precautionary statements

Prevention : Wear eye or face protection: Recommended: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.. Wash hands thoroughly after handling.

Response : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage : Not applicable.

Disposal : Not applicable.

Hazardous ingredients : citric acid

Supplemental label elements : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

Product/ingredient name	Identifiers	%	Classification 67/548/EEC	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
Europe					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
			See Section 16 for the full text of the R-phrases declared above.	**See Section 16 for the full text of the H statements declared above.**	
Austria					

SECTION 3: Composition/information on ingredients

citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Belgium					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Bulgaria					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Croatia					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Czech Republic					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1] [2]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Denmark					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Estonia					

SECTION 3: Composition/information on ingredients

citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Finland					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
France					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Germany					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Greece					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Hungary					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Ireland					

SECTION 3: Composition/information on ingredients

citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Italy					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Latvia					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Lithuania					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Netherlands					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Norway					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Poland					

SECTION 3: Composition/information on ingredients

citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Portugal					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Romania					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Slovakia					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Slovenia					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Spain					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Sweden					

SECTION 3: Composition/information on ingredients

citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Switzerland					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
Turkey					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]
United Kingdom (UK)					
citric acid	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≥75 - <90	Xi; R36	Eye Irrit. 2, H319	[1]
DL-malic acid	REACH #: 01-2119552463-40 EC: 210-514-9 CAS: 617-48-1	≥10 - <25	Xi; R36	Eye Irrit. 2, H319	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : No specific fire or explosion hazard.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

SECTION 5: Firefighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

SECTION 7: Handling and storage

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Europe No exposure limit value known.	
Austria No exposure limit value known.	
Belgium No exposure limit value known.	
Bulgaria No exposure limit value known.	
Croatia No exposure limit value known.	
Czech Republic	
citric acid	**MZCR PEL/NPK-P (Czech Republic, 1/2013).** TWA: 4 mg/m³ 8 hours. Form: dust
Denmark No exposure limit value known.	
Estonia No exposure limit value known.	
Finland No exposure limit value known.	
France No exposure limit value known.	
Germany No exposure limit value known.	
Greece No exposure limit value known.	
Hungary No exposure limit value known.	
Ireland No exposure limit value known.	
Italy No exposure limit value known.	
Latvia No exposure limit value known.	
Lithuania No exposure limit value known.	
Netherlands No exposure limit value known.	

SECTION 8: Exposure controls/personal protection

Norway

No exposure limit value known.

Poland

No exposure limit value known.

Portugal

No exposure limit value known.

Romania

No exposure limit value known.

Slovakia

No exposure limit value known.

Slovenia

No exposure limit value known.

Spain

No exposure limit value known.

Sweden

No exposure limit value known.

Switzerland

No exposure limit value known.

Turkey

No exposure limit value known.

United Kingdom (UK)

No exposure limit value known.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

No DELs available.

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 8: Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): disposable vinyl

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: None assigned.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: None assigned.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Solid.

Colour : Purple.

Odour : Not available.

pH : <2 [Conc. (% w/w): 2%]

Melting point/freezing point : 150°C

Initial boiling point and boiling range : Not available.

Flash point : [Product does not sustain combustion.]

Upper/lower flammability or explosive limits : Not available.

Relative density : 1.8

Solubility(ies) : Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

VOC content : 19.9 % (w/w)

9.2 Other information

SECTION 9: Physical and chemical properties

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
citric acid	LD50 Oral	Rat	3 g/kg	-

Conclusion/Summary : Not available.

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
citric acid	Eyes - Severe irritant	Rabbit	-	24 hours 750 Micrograms	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

SECTION 11: Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.

Ingestion : No specific data.

Skin contact : No specific data.

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
citric acid	Acute LC50 160000 µg/l Marine water	Crustaceans - Carcinus maenas - Adult	48 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
citric acid	-1.64	-	low

SECTION 12: Ecological information

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

European waste catalogue (EWC)

Waste code	Waste designation
16 03 06	organic wastes other than those mentioned in 16 03 05

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG
14.1 UN number	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-
14.3 Transport hazard class(es)	-	-
14.4 Packing group	-	-

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

National regulations

Austria

Belgium

Bulgaria

Croatia

Czech Republic

Denmark

Estonia

Finland

France

Germany

Hazard class for water : nwg Appendix No. 4

Greece

Hungary

Ireland

Italy

Latvia

Lithuania

Netherlands

Norway

Poland

Portugal

Romania

Slovakia

Slovenia

Spain

Sweden

Switzerland

Turkey

United Kingdom (UK)

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Date of printing		22.01.2016.
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Date of previous issue	:	09.04.2015.
Version	:	2.01

Notice to reader

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Eye Irrit. 2, H319	Calculation method

Europe

Full text of abbreviated H statements	:	H319 Causes serious eye irritation.	
Full text of classifications [CLP/GHS]	:	Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Full text of abbreviated R phrases	:	R36- Irritating to eyes.	
Full text of classifications [DSD/DPD]	:	Xi - Irritant	

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.