



SAFETY DATA SHEET EMAL 228 D/JM

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

1.1. Product identifier

Product name EMAL 228 D/JM
Product number 10926
Synonyms; trade names EMAL 228D/JM RSPO MB

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

Identified uses Fertilizer Cleaning agent. Cosmetics Detergent production Surfactant

1.3. Details of the supplier of the safety data sheet

Supplier Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
BD3 7AY
+44 1274 267300
+44 1274 267306
SDS.EMEA@univarsolutions.com

1.4. Emergency telephone number

Emergency telephone SGS - +32 (0)3 575 55 55 (24h)
Sds No. 10926

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 Dam. 1 - H318
Environmental hazards Aquatic Chronic 3 - H412

2.2. Label elements

Hazard pictograms



Signal word Danger

Hazard statements
H315 Causes skin irritation.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

EMAL 228 D/JM**Precautionary statements**

P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER/ doctor.
 P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
 P501 Dispose of contents/ container in accordance with local regulations.

Contains

ALCOHOLS, C12-14, ETHOXYLATED, SULFATES, SODIUM SALTS

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**

ALCOHOLS, C12-14, ETHOXYLATED, SULFATES, SODIUM SALTS			25 - 100%
CAS number: 68891-38-3	EC number: 500-234-8	REACH registration number: 01-2119488639-16-XXXX	
Classification Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 3 - H412			

BRONOPOL (INN)			0 - 0.1%
CAS number: 52-51-7	EC number: 200-143-0	M factor (Acute) = 1	
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 3 - H331 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335 Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411			

The full text for all hazard statements is displayed in Section 16.

Composition comments

The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures**4.1. Description of first aid measures**

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Inhalation	Get medical attention immediately. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If it is suspected that airborne contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
Ingestion	Get medical attention immediately. Rinse mouth thoroughly with water. Remove any dentures. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Give plenty of water to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated by a physician. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
Skin contact	Get medical attention immediately. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. Remove contaminated clothing. Wash skin thoroughly with soap and water. Continue to rinse for at least 10 minutes. Chemical burns must be treated by a physician.
Eye contact	Get medical attention immediately. Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Chemical burns must be treated by a physician.
Protection of first aiders	No action shall be taken without appropriate training or involving any personal risk. If it is suspected that airborne contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves.

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

Ingestion	May cause discomfort if swallowed. Symptoms following overexposure may include the following: Stomach pain.
Skin contact	Causes skin irritation. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	Causes serious eye damage. May cause permanent damage if eye is not immediately irrigated. Symptoms following overexposure may include the following: Pain. Redness. Profuse watering of the eyes.

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

Notes for the doctor	Treat symptomatically. Contact specialist immediately poison treatment if large quantities have been ingested or inhaled
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire.
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Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Harmful to aquatic life with long lasting effects.
When heated and in case of fire, toxic vapours/gases may be formed. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Containers can burst violently or explode when heated, due to excessive pressure build-up.

Hazardous combustion products No known hazardous decomposition products.

5.3. Advice for firefighters

Protective actions during firefighting No action shall be taken without appropriate training or involving any personal risk. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Control run-off water by containing and keeping it out of sewers and watercourses. Contain and collect extinguishing water.

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 No action shall be taken without appropriate training or involving any personal risk. Follow precautions for safe handling described in this safety data sheet. Evacuate area. Keep unnecessary and unprotected personnel away from the spillage.
Provide adequate ventilation. If ventilation is inadequate, suitable respiratory protection must be worn. Avoid inhalation of vapours/spray and contact with skin and eyes. Do not touch or walk into spilled material.

6.2. Environmental precautions

Environmental precautions Harmful to aquatic life with long lasting effects. Avoid the spillage or runoff entering drains, sewers or watercourses. 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 Harmful to aquatic life with long lasting effects.
Approach the spillage from upwind. Stop leak if safe to do so. Provide adequate ventilation. Absorb spillage with inert, damp, non-combustible material. Collect and place in suitable waste disposal containers and seal securely. The contaminated absorbent may pose the same hazard as the spilled material.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. Collect and dispose of spillage as indicated in Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Handle all packages and containers carefully to minimise spills. Wear protective clothing as described in Section 8 of this safety data sheet.
Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid inhalation of vapours and contact with skin and eyes. Container must be kept tightly closed when not in use. Product residues retained in emptied containers can be hazardous. Do not reuse empty containers. Avoid release to the environment.

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Advice on general occupational hygiene

Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Provide eyewash station and safety shower.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store in tightly-closed, original container in a dry, cool and well-ventilated place. Avoid exposure to high temperatures or direct sunlight. Container must be kept tightly closed when not in use. Keep away from food, drink and animal feeding stuffs. Use appropriate containment to avoid environmental contamination.

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

Ingredient comments

No exposure limits known for ingredient(s).

ALCOHOLS, C12-14, ETHOXYLATED, SULFATES, SODIUM SALTS (CAS: 68891-38-3)

DNEL

Workers - Dermal; Long term systemic effects: 2750 mg/kg/day
 Workers - Inhalation; Long term systemic effects: 175 mg/m³
 General population, Consumer - Dermal; Long term systemic effects: 1650 mg/kg/day
 General population, Consumer - Inhalation; Long term systemic effects: 52 mg/m³
 General population, Consumer - Oral; Long term systemic effects: 15 mg/kg/day
 Workers - Inhalation; Long term systemic effects: 175 mg/m³

PNEC

- Fresh water; 0.24 mg/l
 - marine water; 0.024 mg/l
 - STP; 10000 mg/l
 - Sediment (Freshwater); 5.45 mg/kg
 - Sediment (Marinewater); 0.545 mg/kg
 - Soil; 0.946 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Avoid inhalation of vapours and contact with skin and eyes. Provide eyewash station and safety shower.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Chemical splash goggles or face shield.

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Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. For exposure up to 8 hours, wear gloves made of the following material: Butyl rubber. Viton rubber (fluoro rubber). Nitrile rubber. Neoprene.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Care should be taken to avoid contact with contaminants when removing contaminated clothing. Wash contaminated clothing before reuse.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. If ventilation is inadequate, suitable respiratory protection must be worn. EN 136/140/141/145/143/149
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	Liquid.
Colour	Clear. Colourless.
Odour	Characteristic.
Odour threshold	No information available.
pH	pH (diluted solution): 6 - 7 (10% w/w)
Melting point	< 0°C
Initial boiling point and range	>100°C
Flash point	> 100°C Closed cup. This product does not sustain combustion.
Evaporation rate	No information available.
Evaporation factor	Not available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	No information available.
Vapour density	No information available.
Relative density	1.03 @ 20°C
Bulk density	No information available.
Solubility(ies)	Soluble in water.

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Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	100 - 200 cP @ 20°C
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	No information available.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	No information available.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No test data specifically related to reactivity available for this product or its ingredients.
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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	Under normal conditions of storage and use, no hazardous reactions will occur.
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10.4. Conditions to avoid

Conditions to avoid	Avoid exposing aerosol containers to high temperatures or direct sunlight.
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10.5. Incompatible materials

Materials to avoid	No information available.
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10.6. Hazardous decomposition products

Hazardous decomposition products	No known hazardous decomposition products.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD ₅₀)	LD ₅₀ >2000 mg/kg, Oral, Rat
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Acute toxicity - dermal

Notes (dermal LD ₅₀)	No specific test data are available.
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Acute toxicity - inhalation

Notes (inhalation LC ₅₀)	No specific test data are available.
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ATE inhalation (dusts/mists mg/l)	500.0
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Skin corrosion/irritation

Skin corrosion/irritation	Causes skin irritation.
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Serious eye damage/irritation

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Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Genotoxicity - in vivo Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

Inhalation Gas or vapour in high concentrations may irritate the respiratory system.

Ingestion May cause discomfort if swallowed.
Symptoms following overexposure may include the following: Stomach pain.

Skin contact Causes skin irritation.
Symptoms following overexposure may include the following: Pain. Redness. Blistering may occur.

Eye contact Causes serious eye damage. May cause permanent damage if eye is not immediately irrigated.
Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

Toxicological information on ingredients.**ALCOHOLS, C12-14, ETHOXYLATED, SULFATES, SODIUM SALTS****Acute toxicity - oral**

Acute toxicity oral (LD₅₀ mg/kg) 4,100.0

Species Rat

ATE oral (mg/kg) 4,100.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2000 mg/kg, Dermal, Rat

EMAL 228 D/JM**Skin corrosion/irritation**

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising. Guinea pig

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met. Ames test OECD 471

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility - NOAEL >300 mg/kg, Oral, Rat OECD 416

Reproductive toxicity - development - NOAEL: >1000 mg/kg, Oral, Rat OECD 414

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL >225 mg/kg, Oral, Rat OECD 408

Inhalation Gas or vapour in high concentrations may irritate the respiratory system.

Ingestion May cause burns in mucous membranes, throat, oesophagus and stomach.

Skin contact Causes skin irritation.

Eye contact Causes serious eye damage.

BRONOPOL (INN)**Acute toxicity - oral**

Acute toxicity oral (LD₅₀ mg/kg) 305.0

Species Rat

ATE oral (mg/kg) 305.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2000 mg/kg, Dermal, Rat

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LD₅₀ 800 mg/m³, Inhalation, Rat

ATE inhalation (dusts/mists mg/l) 0.5

EMAL 228 D/JM**Skin corrosion/irritation**

Animal data Irritating to skin. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage. Rabbit

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Not sensitising. Guinea pig OECD 406

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Specific target organ toxicity - single exposure

STOT - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

Inhalation

Toxic by inhalation. May cause respiratory system irritation.

Ingestion

Harmful if swallowed.

Skin contact

Harmful in contact with skin. Irritating to skin.

Eye contact

Causes serious eye damage.

SECTION 12: Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Ecological information on ingredients.**BRONOPOL (INN)**

Ecotoxicity Very toxic to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity Harmful to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hour: > 1 mg/l, Fish
CESIO

EMAL 228 D/JM**Ecological information on ingredients.****ALCOHOLS, C12-14, ETHOXYLATED, SULFATES, SODIUM SALTS****Acute aquatic toxicity**

Acute toxicity - fish	LC ₅₀ , 96 hours: >7.1 mg/l, Fish OECD 203
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 7.4 mg/l, Daphnia magna OECD 202 NOEC, 48 hours: 0.27 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 27.7 mg/l, Algae OECD 201

BRONOPOL (INN)**Acute aquatic toxicity**

LE(C)₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC ₅₀ , 96 hours: 35.7 mg/l, Lepomis macrochirus (Bluegill)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 1.4 mg/l, Daphnia magna OECD 202
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 0.37 mg/l, Pseudokirchneriella subcapitata OECD 201

Chronic aquatic toxicity

Chronic toxicity - fish early life stage	NOEC, 49 days: 21.5 mg/l, Oncorhynchus mykiss (Rainbow trout)
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0.27 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability	The product is readily biodegradable. This surfactant complies with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them at their direct request, or at the request of a detergent manufacturer.
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Ecological information on ingredients.**ALCOHOLS, C12-14, ETHOXYLATED, SULFATES, SODIUM SALTS**

Persistence and degradability	The product is readily biodegradable.
Biodegradation	- Degradation (%) 100: 28 days

BRONOPOL (INN)

Persistence and degradability	The product is readily biodegradable.
Phototransformation	- 50%: <2 days

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Biodegradation - 70-80%: 28 days
OCED 301B

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient No information available.

Ecological information on ingredients.**ALCOHOLS, C12-14, ETHOXYLATED, SULFATES, SODIUM SALTS**

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.
BCF: < 3,

Partition coefficient log Pow: 0.3

BRONOPOL (INN)

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Partition coefficient log Pow: 0.22

12.4. Mobility in soil

Mobility The product is soluble in water.

Ecological information on ingredients.**ALCOHOLS, C12-14, ETHOXYLATED, SULFATES, SODIUM SALTS**

Mobility The product is soluble in water.

BRONOPOL (INN)

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.

Ecological information on ingredients.**BRONOPOL (INN)**

Results of PBT and vPvB assessment No information available.

12.6. Other adverse effects

Other adverse effects Not determined.

Ecological information on ingredients.**BRONOPOL (INN)**

Other adverse effects Not available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

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General information	Waste is classified as hazardous waste. Avoid discharge into drains or watercourses or onto the ground. Do not puncture or incinerate, even when empty. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).
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14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

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.

Emergency Action Code •3Z

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**

SECTION 15: Regulatory information

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

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). 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 2015/830 of 28 May 2015.
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Health and environmental listings	The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.
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Restrictions (Annex XVII Regulation 1907/2006)

CAUTION - Chemical may be subject to REACH RESTRICTIONS - see Annex XVII. This product is/contains a substance that is included in REGULATION (EC) No 1907/2006 (REACH) ANNEX XVII - RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES. Entry number: 3

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

Canada - DSL/NDL

All the ingredients are listed or exempt.
DSL

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

Taiwan - TCSI

All the ingredients are listed or exempt.

SECTION 16: Other information

EMAL 228 D/JM**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.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: 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.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

**Classification abbreviations
and acronyms**

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

**Key literature references and
sources for data**

Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

05/03/2021

Version number

4.000

Supersedes date

22/04/2020

SDS number

10926

EMAL 228 D/JM**SDS status**

Approved.

Hazard statements in full

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Signature

Jacq Pattinson

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.