



## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

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

#### 1.1. Product identifier

3M™ Electronic Surfactant 4200

#### Product Identification Numbers

98-0212-3225-5

7100004381

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

##### Identified uses

Surfactant

##### Restrictions on Use

Prevent releases of surfactants to the environment. This includes, but is not limited to, treatment of surfactant containing aqueous waste streams. Contact 3M for additional information. Refer to Section 15 for additional information.

#### 1.3. Details of the supplier of the safety data sheet

**Address:** 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.  
**Telephone:** +44 (0)1344 858 000  
**E Mail:** tox.uk@mmm.com  
**Website:** www.3M.com/uk

#### 1.4. Emergency telephone number

+44 (0)1344 858 000

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

##### CLASSIFICATION:

Acute Toxicity, Category 4 - Acute Tox. 4; H302  
Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318  
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315

Specific Target Organ Toxicity-Single Exposure, Category 2 - STOT SE 2; H371  
Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

## 2.2. Label elements

### CLP REGULATION (EC) No 1272/2008

#### SIGNAL WORD

DANGER.

#### Symbols:

GHS05 (Corrosion) | GHS07 (Exclamation mark) | GHS08 (Health Hazard) |

#### Pictograms



#### Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	484024-67-1	454-680-2	24 - 28
Ammonia, aqueous solution	1336-21-6	215-647-6	< 4

#### HAZARD STATEMENTS:

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H371	May cause damage to organs: nervous system
H412	Harmful to aquatic life with long lasting effects.

#### PRECAUTIONARY STATEMENTS

##### Prevention:

P260A	Do not breathe vapours.
P280A	Wear eye/face protection.

##### Response:

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 CENTRE or doctor/physician.

##### Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.
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## 2.3. Other hazards

None known.

**SECTION 3: Composition/information on ingredients**

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Non-Hazardous Ingredients	Mixture			60 - 80	Substance not classified as hazardous
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	484024-67-1	ELINCS 454-680-2		24 - 28	Acute Tox. 4, H302; Eye Dam. 1, H318; STOT SE 2, H371; Aquatic Chronic 3, H412
Ammonia, aqueous solution	1336-21-6	215-647-6		< 4	Skin Corr. 1B, H314; STOT SE 3, H335; Aquatic Acute 1, H400,M=1 - Nota B Met. Corr. 1, H290

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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

Remove person to fresh air. If you feel unwell, get medical attention.

**Skin contact**

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye contact**

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

**If swallowed**

Rinse mouth. If you feel unwell, get medical attention.

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

See Section 11.1 Information on toxicological effects

**4.3. Indication of any immediate medical attention and special treatment required**

Not applicable

**SECTION 5: Fire-fighting measures****5.1. Extinguishing media**

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

**5.2. Special hazards arising from the substance or mixture**

Exposure to extreme heat can give rise to thermal decomposition.

**Hazardous Decomposition or By-Products**

**Substance**

Carbon monoxide.  
Carbon dioxide.  
Hydrogen Fluoride  
Oxides of nitrogen.  
Oxides of sulphur.

**Condition**

During combustion.  
During combustion.  
During combustion.  
During combustion.  
During combustion.

**5.3. Advice for fire-fighters**

When fire fighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, tunic and trousers (leggings), bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**

Avoid release to the environment. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible.

**6.4. Reference to other sections**

Refer to Section 8 and Section 13 for more information

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Avoid inhalation of thermal decomposition products. For industrial/occupational use only. Not for consumer sale or use. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

**7.2. Conditions for safe storage including any incompatibilities**

Store away from acids.

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

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Ammonia released from ammonium hydroxide/aqueous ammonia solutions	1336-21-6	UK HSC	TWA:18 mg/m <sup>3</sup> (25 ppm);STEL:25 mg/m <sup>3</sup> (35 ppm)	
UK HSC : UK Health and Safety Commission TWA: Time-Weighted-Average STEL: Short Term Exposure Limit CEIL: Ceiling				

### Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

**Recommended monitoring procedures:**Information on recommended monitoring procedures can be obtained from UK HSC

## 8.2. Exposure controls

### 8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

### 8.2.2. Personal protective equipment (PPE)

#### Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full face shield.

Indirect vented goggles.

#### *Applicable Norms/Standards*

Use eye/face protection conforming to EN 166

#### Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available

#### *Applicable Norms/Standards*

Use gloves tested to EN 374

#### Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

#### *Applicable Norms/Standards*

Use a respirator conforming to EN 140 or EN 136: filter types A & P

## SECTION 9: Physical and chemical properties

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

#### Appearance

Physical state  
Colour

Liquid.  
Clear Colorless

#### Odor

Ammoniacal

#### Odour threshold

*No data available.*

#### pH

10

#### Boiling point/boiling range

65.6 °C

#### Melting point

*Not applicable.*

#### Flammability (solid, gas)

Not applicable.

#### Explosive properties

Not classified

#### Oxidising properties

Not classified

#### Flash point

No flash point

#### Autoignition temperature

*No data available.*

#### Flammable Limits(LEL)

*Not applicable.*

#### Flammable Limits(UEL)

*Not applicable.*

#### Vapour pressure

2344.2 Pa [ @ 20 °C ]

#### Relative density

1.1 [Ref Std: WATER=1]

#### Water solubility

Complete

#### Solubility- non-water

*No data available.*

#### Partition coefficient: n-octanol/water

*No data available.*

#### Evaporation rate

*No data available.*

#### Vapour density

*No data available.*

#### Decomposition temperature

*No data available.*

#### Viscosity

2 mPa-s

#### Density

1.1 g/ml

### 9.2. Other information

Average particle size

*No data available.*

Bulk density

*No data available.*

EU Volatile Organic Compounds

*No data available.*

Molecular weight

*No data available.*

Percent volatile

68 - 75 %

Softening point

*No data available.*

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is considered to be non reactive under normal use conditions

### 10.2 Chemical stability

Stable.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

### 10.4 Conditions to avoid

None known.

### 10.5 Incompatible materials

Strong acids.

### 10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

If the product is exposed to extreme conditions of heat from misuse or equipment failure, toxic decomposition products that include hydrogen fluoride and perfluoroisobutylene can occur. Extreme heat arising from situations such as misuse or equipment failure can generate hydrogen fluoride as a decomposition product.

## SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

### 11.1 Information on Toxicological effects

#### Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

#### Inhalation

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

#### Skin contact

Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, dryness, cracking, blistering, and pain.

#### Eye contact

Corrosive (eye burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

#### Ingestion

Harmful if swallowed.

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

#### Additional Health Effects:

#### Single exposure may cause target organ effects:

Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate.

#### Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

#### Acute Toxicity

**3M™ Electronic Surfactant 4200**

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE300 - 2,000 mg/kg
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	Ingestion	Rat	LD50 156-1560 mg/kg
Ammonia, aqueous solution	Ingestion	Rat	LD50 350 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	Rabbit	Minimal irritation
Ammonia, aqueous solution	Rabbit	Corrosive

**Serious Eye Damage/Irritation**

Name	Species	Value
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	Rabbit	Corrosive
Ammonia, aqueous solution	Rabbit	Corrosive

**Skin Sensitisation**

Name	Species	Value
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	Guinea pig	Not classified

**Respiratory Sensitisation**

For the component/components, either no data is currently available or the data is not sufficient for classification.

**Germ Cell Mutagenicity**

Name	Route	Value
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	In Vitro	Not mutagenic

**Carcinogenicity**

For the component/components, either no data is currently available or the data is not sufficient for classification.

**Reproductive Toxicity****Reproductive and/or Developmental Effects**

For the component/components, either no data is currently available or the data is not sufficient for classification.

**Target Organ(s)****Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	Ingestion	nervous system	May cause damage to organs	Rat	LOAEL 156 mg/kg	not applicable
Ammonia, aqueous solution	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL not available	

**Specific Target Organ Toxicity - repeated exposure**

For the component/components, either no data is currently available or the data is not sufficient for classification.



**Aspiration Hazard**

For the component/components, either no data is currently available or the data is not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

**SECTION 12: Ecological information**

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

**12.1. Toxicity**

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	484024-67-1	Green Algae	Experimental	72 hours	EC50	>220 mg/l
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	484024-67-1	Water flea	Experimental	48 hours	EC50	125 mg/l
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	484024-67-1	Zebra Fish	Experimental	96 hours	LC50	60 mg/l
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	484024-67-1	Green Algae	Experimental	72 hours	NOEC	22 mg/l
Ammonia, aqueous solution	1336-21-6	Algae or other aquatic plants	Estimated	72 hours	IC50	21.5 mg/l
Ammonia, aqueous solution	1336-21-6	Fish other	Estimated	96 hours	LC50	3.5 mg/l
Ammonia, aqueous solution	1336-21-6	Grass Shrimp	Estimated	48 hours	EC50	20 mg/l
Ammonia, aqueous solution	1336-21-6	Algae or other aquatic plants	Estimated	72 hours	NOEC	1.5 mg/l
Ammonia, aqueous solution	1336-21-6	Bluegill	Estimated	32 days	NOEC	4.1 mg/l
Ammonia, aqueous solution	1336-21-6	Water flea	Estimated	21 days	NOEC	49.2 mg/l

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	484024-67-1	Experimental Biodegradation	28 days	CO2 evolution	11 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
Ammonia, aqueous solution	1336-21-6	Data not availbl-insufficient			N/A	

**12.3 : Bioaccumulative potential**

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-, monoammonium salt	484024-67-1	Estimated Bioconcentration		Bioaccumulation factor	171	Estimated: Bioconcentration factor
Ammonia, aqueous solution	1336-21-6	Estimated Bioconcentration		Log Kow	-1.14	Other methods

**12.4. Mobility in soil**

Please contact manufacturer for more details

**12.5. Results of the PBT and vPvB assessment**

This material does not contain any substances that are assessed to be a PBT or vPvB

**12.6. Other adverse effects**

No information available.

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

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include HF. Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

**EU waste code (product as sold)**

070604\* Other organic solvents, washing liquids and mother liquors

**SECTION 14: Transportation information**

98-0212-3225-5

Not hazardous for transportation

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**15.2. Chemical Safety Assessment**

A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended.

**SECTION 16: Other information****List of relevant H statements**

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H371	May cause damage to organs.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

**Revision information:**

CLP: Ingredient table information was modified.

Section 3: Composition/ Information of ingredients table information was modified.

Section 4: First aid for ingestion (swallowing) information information was modified.

Section 5: Fire - Advice for fire fighters information information was modified.

Section 8: Appropriate Engineering controls information information was modified.

Section 8: glove data value information was modified.

Section 8: Personal Protection - Respiratory Information information was modified.

Section 8: Personal Protection - Skin/hand information information was modified.

Section 8: Respiratory protection - recommended respirators information information was modified.

Section 09: Color information was added.

Section 09: Odor information was added.

Sections 3 and 9: Odour, colour, grade information information was deleted.

Section 11: Health Effects - Ingestion information information was modified.

Section 12: Component ecotoxicity information information was modified.

Section 13: Standard Phrase Category Waste GHS information was modified.

Section 15: Regulations - Inventories information was deleted.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

**3M United Kingdom MSDSs are available at [www.3M.com/uk](http://www.3M.com/uk)**