SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING.

1.1 Product identifier.

Product Name: (3-Chloro-2-hydroxypropyl)trimethylammonium chloride solution 65% water
Product Code: 114670
Chemical Name: (3-Chloro-2-hydroxypropyl)trimethylammonium chloride solution 65% water
Index No: 612-238-00-8
CAS No: 3327-22-8
EC No: 222-048-3
Registration No: N/D

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

For manufacturing, processing, laboratory or repacking use only
Uses advised against:
Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet.

Company: DC FINE CHEMICALS Ltd.
Address: Hill Top, 88
City: NW11 6DY London (United Kingdom)
Telephone: +44 (20) 7586 6800
Fax: +44 (20) 7504 1701
E-mail: info@dcfinechemicals.com
Web: www.dcfinechemicals.com

1.4 Emergency telephone number: (Only available during office hours)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the substance.
In accordance with Regulation (EU) No 1272/2008:
Aquatic Chronic 3: Harmful to aquatic life with long lasting effects.
Carc. 2: Suspected of causing cancer.

2.2 Label elements.
Labelling in accordance with Regulation (EU) No 1272/2008:

Pictograms:

Signal Word: Warning
H statements:
H351 Suspected of causing cancer.
H412 Harmful to aquatic life with long lasting effects.

P statements:
P273 Avoid release to the environment.
P501 Dispose of contents / container according the regulation.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

-Continued on next page.-
P280  Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405  Store locked up.

Contains:
(3-Chloro-2-hydroxypropyl)trimethylammonium chloride solution 65% water

2.3 Other hazards.
In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Substances.
Chemical Name: (3-Chloro-2-hydroxypropyl)trimethylammonium chloride solution 65% water
Index No: 612-238-00-8
CAS No: 3327-22-8
CE No: 222-048-3
Registration No: N/D

3.2 Mixtures.
Not Applicable.

SECTION 4: FIRST AID MEASURES.

4.1 Description of first aid measures.
In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

Inhalation.
If wearing contact lenses, remove them. If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance.

Eye contact.
If wearing contact lenses, remove them. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance.

Skin contact.
Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. NEVER use solvents or thinners.

Ingestion.
If accidentally ingested, seek immediate medical attention. Keep calm. NEVER induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed.
Corrosive Product, contact with eyes or skin can cause burns; ingestion or inhalation can cause internal damage, if this occurs immediate medical assistance is required.

4.3 Indication of any immediate medical attention and special treatment needed.
In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

SECTION 5: FIREFIGHTING MEASURES.

The product is NOT classified as flammable, in case of fire the following measures should be taken:

5.1 Extinguishing media.
Recommended extinguishing methods.
5.2 Special hazards arising from the substance.

Special risks.
Fire can cause thick, black smoke. As a result of thermal decomposition, dangerous products can form: carbon monoxide, carbon dioxide. Exposure to combustion or decomposition products can be harmful to your health.

5.3 Advice for firefighters.
Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways.

Fire protection equipment.
According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and gloves.

SECTION 6: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures.
For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions.
Prevent the contamination of drains, surface or subterranean waters, and the ground.

6.3 Methods and material for containment and cleaning up.
Pick up the spill with non-combustible absorbent materials (soil, sand, vermiculite, diatomite, etc.). Pour the product and the absorbent in an appropriate container. The contaminated area should be immediately cleaned with an appropriate decontaminator. Pour the decontaminator on the remains in an opened container and let it act various days until no further reaction is produced.

6.4 Reference to other sections.
For exposure control and individual protection measures, see section 8.
For later elimination of waste, follow the recommendations under section 13.

SECTION 7: HANDLING AND STORAGE.

7.1 Precautions for safe handling.
For personal protection, see section 8. Never use pressure to empty the containers. They are not pressure-resistant containers. In the application area, smoking, eating, and drinking must be prohibited.
Follow legislation on occupational health and safety.
Keep the product in containers made of a material identical to the original.

7.2 Conditions for safe storage, including any incompatibilities.
Store according to local legislation. Observe indications on the label. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorised persons. Once the containers are open, they must be carefully closed and placed vertically to prevent spills.
The product is not affected by Directive 2012/18/EU (SEVESO III).

7.3 Specific end use(s).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.
The product does NOT contain substances with Professional Exposure Environmental Limit Values. The product does NOT contain substances with Biological Limit Values.

8.2 Exposure controls.
Measures of a technical nature:
Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

<table>
<thead>
<tr>
<th>Concentration:</th>
<th>100 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses:</td>
<td>For manufacturing, processing, laboratory or repacking use only</td>
</tr>
</tbody>
</table>

Breathing protection:
If the recommended technical measures are observed, no individual protection equipment is necessary.

Hand protection:
PPE:
- Protective gloves against chemicals.
Characteristics: «CE» marking, category III.
CEN standards: EN 374-1, En 374-2, EN 374-3, EN 420
Maintenance:
- Keep in a dry place, away from any sources of heat, and avoid exposure to sunlight as much as possible.
- Do not make any changes to the gloves that may alter their resistance, or apply paints, solvents or adhesives.
Observations:
- Gloves should be of the appropriate size and fit the user's hand well, not being too loose or too tight.
- Always use with clean, dry hands.

Material: PVC (polyvinyl chloride) Breakthrough time (min.): > 480 Material thickness (mm): 0,35

Eye protection:
If the product is handled correctly, no individual protection equipment is necessary.

Skin protection:
PPE:
- Work footwear.
Characteristics: «CE» marking, category II.
CEN standards: EN ISO 13287, EN 20347
Maintenance:
- This product adapts to the first user's foot shape. That is why, as well as for hygienic reasons, it should not be used by other people.
Observations:
- Work footwear for professional use includes protection elements aimed at protecting users against any injury resulting from an accident.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.
Appearance: Liquid
Colour: N.A./N.A.
Odour: N.A./N.A.
Odour threshold: N.A./N.A.
pH: 2,0-6,0 (5%, 20ºC)
Melting point: N.A./N.A.
Boiling Point: N.A./N.A.
Flash point: > 113 ºC
Evaporation rate: N.A./N.A.
Inflammability (solid, gas): N.A./N.A.
Lower Explosive Limit: N.A./N.A.
Upper Explosive Limit: N.A./N.A.
Vapour pressure: N.A./N.A.
Vapour density: N.A./N.A.
Relative density: 1,154 g/cm³
Solubility: N.A./N.A.
Liposolubility: N.A./N.A.
Hydrosolubility: N.A./N.A.
Partition coefficient (n-octanol/water): N.A./N.A.
Auto-ignition temperature: N.A./N.A.
Decomposition temperature: N.A./N.A.
Viscosity: N.A./N.A.
Explosive properties: N.A./N.A.
Oxidizing properties: N.A./N.A.
N.A./N.A. = Not Available/Not Applicable due to the nature of the product

9.2. Other information.

-Continued on next page.-
SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.
The product does not present hazards by their reactivity.

10.2 Chemical stability.
Unstable in contact with:
- Bases.

10.3 Possibility of hazardous reactions.
Neutralization can occur on contact with bases.

10.4 Conditions to avoid.
- Avoid contact with bases.

10.5 Incompatible materials.
Avoid the following materials:
- Bases.

10.6 Hazardous decomposition products.
Depending on conditions of use, can be generated the following products:
- Corrosive vapors or gases.

SECTION 11: TOXICOLOGICAL INFORMATION.

11.1 Information on toxicological effects.
Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin. Splatters in the eyes can cause irritation and reversible damage.

a) acute toxicity;
Not conclusive data for classification.

b) skin corrosion/irritation;
Not conclusive data for classification.

c) serious eye damage/irritation;
Not conclusive data for classification.

d) respiratory or skin sensitisation;
Not conclusive data for classification.

e) germ cell mutagenicity;
Not conclusive data for classification.

f) carcinogenicity;
Product classified:
Carcinogen, Category 2: Suspected of causing cancer.

g) reproductive toxicity;
Not conclusive data for classification.

h) STOT-single exposure;
Not conclusive data for classification.

i) STOT-repeated exposure;
Not conclusive data for classification.
j) aspiration hazard;
Not conclusive data for classification.

SECTION 12: ECOLOGICAL INFORMATION.

12.1 Toxicity.
No information is available regarding the ecotoxicity.

12.2 Persistence and degradability.
No information is available about persistence and degradability of the product.

12.3 Bioaccumulative potential.
No information is available regarding the bioaccumulation.

12.4 Mobility in soil.
No information is available about the mobility in soil.
The product must not be allowed to go into sewers or waterways.
Prevent penetration into the ground.

12.5 Results of PBT and vPvB assessment.
No information is available about the results of PBT and vPvB assessment of the product.

12.6 Other adverse effects.
No information is available about other adverse effects for the environment.

SECTION 13 DISPOSAL CONSIDERATIONS.

13.1 Waste treatment methods.
Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

SECTION 14: TRANSPORT INFORMATION.

Transportation is not dangerous. In case of road accident causing the product’s spillage, proceed in accordance with point 6.

14.1 UN number.
Transportation is not dangerous.

14.2 UN proper shipping name.
Transportation is not dangerous.

14.3 Transport hazard class(es).
Transportation is not dangerous.

14.4 Packing group.
Transportation is not dangerous.

14.5 Environmental hazards.
Transportation is not dangerous.

14.6 Special precautions for user.
Transportation is not dangerous.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.
Transportation is not dangerous.
SECTION 15: REGULATORY INFORMATION.

15.1 Safety, health and environmental regulations/legislation specific for the substance.
The product is not affected by Directive 2012/18/EU (SEVESO III).
The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.
The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

15.2 Chemical safety assessment.
There has been no evaluation a chemical safety assessment of the product.

SECTION 16: OTHER INFORMATION.

Classification codes:
Aquatic Chronic 3 : Chronic effect to the aquatic environment, Category 3
Carc. 2 : Carcinogen, Category 2

Sections changed compared with the previous version:
1,2,3,4,8,9,11,14,16

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Labelling in accordance with Directive 67/548/EEC:
Symbols:

R Phrases:
R35  Causes severe burns.
R40  Limited evidence of a carcinogenic effect.
R52/53  Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S Phrases:
S61  Avoid release to the environment. Refer to special instructions/safety data sheets.
S36/37  Wear suitable protective clothing and gloves.

Contains:
(3-Chloro-2-hydroxypropyl)trimethylammonium chloride solution 65% water

Abbreviations and acronyms used:
CEN: European Committee for Standardization.
PPE: Personal protection equipment.

Key literature references and sources for data:
http://eur-lex.europa.eu/homepage.html

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.