

## SAFETY DATA SHEET TOTAL HARDNESS INDICATOR

According to Regulation (EC) No 1907/2006, Annex II

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

#### 1.1. Product identifier

Product name TOTAL HARDNESS INDICATOR

Product number 1389

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

Identified uses General chemical reagent

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

Supplier Reagent Chemical Services  
18 Aston Fields Road  
Whitehouse Industrial Estate  
Runcorn  
Cheshire WA7 3DL

T: 01928 716903 (08.30 - 17.00)

F: 01928 716425

E: [info@reagent.co.uk](mailto:info@reagent.co.uk)

#### 1.4. Emergency telephone number

Emergency telephone OHES Environmental Ltd 24-7  
Tel. 0333 333 9939 (24 hour)

### SECTION 2: Hazards identification

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

##### Classification

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H332 Eye Irrit. 2 - H319 STOT SE 2 - H371

Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) Xn;R20/21/22,R68/20/21/22. F;R11.

#### 2.2. Label elements

##### Pictogram



Signal word

Warning

## TOTAL HARDNESS INDICATOR

<b>Hazard statements</b>	H319 Causes serious eye irritation. H332 Harmful if inhaled. H371 May cause damage to organs . EUH208 Contains HYDROXYLAMMONIUM CHLORIDE. May produce an allergic reaction.
<b>Precautionary statements</b>	P260 Do not breathe vapour/spray. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. 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. P312 Call a POISON CENTER/doctor if you feel unwell.
<b>Contains</b>	METHANOL
<b>Supplementary precautionary statements</b>	P261 Avoid breathing vapour/spray. P264 Wash contaminated skin thoroughly after handling. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor. P337+P313 If eye irritation persists: Get medical advice/attention. P405 Store locked up. P501 Dispose of contents/container in accordance with local regulations.

### 2.3. Other hazards

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

### 3.2. Mixtures

<b>ETHANOL</b>	<b>60-100%</b>
CAS number: 64-17-5	EC number: 200-578-6
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>
Flam. Liq. 2 - H225	F;R11
Eye Irrit. 2 - H319	
<b>METHANOL</b>	<b>1-5%</b>
CAS number: 67-56-1	EC number: 200-659-6
	REACH registration number: 01-2119433307-44-XXXX
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>
Flam. Liq. 2 - H225	F;R11 T;R23/24/25,R39/23/24/25
Acute Tox. 3 - H301	
Acute Tox. 3 - H311	
Acute Tox. 3 - H331	
STOT SE 1 - H370	

## TOTAL HARDNESS INDICATOR

<b>HYDROXYLAMMONIUM CHLORIDE</b>		<b>&lt;1%</b>
CAS number: 5470-11-1	EC number: 226-798-2	
M factor (Acute) = 1		
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>	
Met. Corr. 1 - H290	E;R2 Carc. Cat. 3;R40 Xn;R21/22,R48/22 Xi;R36/38 R43	
Acute Tox. 4 - H302	N;R50	
Acute Tox. 4 - H312		
Skin Irrit. 2 - H315		
Eye Irrit. 2 - H319		
Skin Sens. 1 - H317		
Carc. 2 - H351		
STOT RE 2 - H373		
Aquatic Acute 1 - H400		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>Inhalation</b>	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Do not induce vomiting. Immediately rinse mouth and drink plenty of water. Get medical attention immediately.
<b>Skin contact</b>	Immediately remove contaminated clothing and wash before re-use. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.
<b>Eye contact</b>	Promptly wash eyes with plenty of water or eye wash solution while lifting the eyelids. If possible remove any contact lenses and continue to wash. Get medical attention immediately.

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

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

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media** Water spray, dry powder or vaporising liquids

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

**Specific hazards** The product is highly flammable. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Forms explosive mixtures with air.

#### 5.3. Advice for firefighters

**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** Wear protective clothing as described in Section 8 of this safety data sheet.

#### 6.2. Environmental precautions

## TOTAL HARDNESS INDICATOR

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

**Methods for cleaning up** No smoking, sparks, flames or other sources of ignition near spillage. Small Spillages: Absorb with inert, non-combustible material. Large Spillages: Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Wash spillage site well with water and detergent, be aware of the potential for surfaces to become slippery. Provide adequate ventilation.

### 6.4. Reference to other sections

#### SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Usage precautions** Avoid spilling. Avoid contact with skin and eyes. Static electricity and formation of sparks must be prevented. Eliminate all sources of ignition.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Keep away from oxidising materials, heat and flames. Store in tightly-closed, original container in a dry and cool place.

**Storage class** Flammable liquid storage.

### 7.3. Specific end use(s)

#### SECTION 8: Exposure Controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

#### **ETHANOL**

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1920 mg/m<sup>3</sup>

#### **METHANOL**

Long-term exposure limit (8-hour TWA): WEL 200 ppm(Sk) 266 mg/m<sup>3</sup>(Sk)

Short-term exposure limit (15-minute): WEL 250 ppm(Sk) 333 mg/m<sup>3</sup>(Sk)

WEL = Workplace Exposure Limit

#### ETHANOL (CAS: 64-17-5)

<b>DNEL</b>	<p>Industry - Inhalation; Short term : 1900 (local) mg/m<sup>3</sup>            Taken from the ECHA website: List of Registered Substances -Toxicity data.            Industry - Dermal; Long term : 343 (systemic) mg/kg/day            Industry - Inhalation; Long term : 950 (systemic) mg/m<sup>3</sup>            Consumer - Inhalation; Short term : 950 (local) mg/m<sup>3</sup>            Consumer - Dermal; Long term : 206 (systemic) mg/kg/day            Consumer - Inhalation; Long term : 114 (systemic) mg/m<sup>3</sup>            Consumer - Oral; Long term : 87 (systemic) mg/kg/day</p>
<b>PNEC</b>	<p>- Fresh water; 0.96 mg/l            Taken from the ECHA website: List of Registered Substances - Ecotoxicity data.            - Marine water; 0.79 mg/l            - STP; 580 mg/l            - Sediment; 3.6 (freshwater) mg/kg            - Sediment; 2.9 (marine water) mg/kg            - Soil; 0.63 mg/kg</p>

#### METHANOL (CAS: 67-56-1)

## TOTAL HARDNESS INDICATOR

<b>Biological limit values</b>	No information available from the supplier., No information available from the supplier., No information available from the supplier.
<b>DNEL</b>	Industry - Dermal; Short term : 40 (Systemic) mg/kg/day Industry - Inhalation; Short term : 260 (Systemic and local) mg/m <sup>3</sup> Industry - Dermal; Long term : 40 (Systemic) mg/kg/day Industry - Inhalation; Long term : 260 (Systemic and local) mg/m <sup>3</sup> Consumer - ; Short term : 8 (Systemic, Dermal and oral) mg/kg/day Consumer - Inhalation; Short term : 50 (Systemic and local) mg/m <sup>3</sup> Consumer - ; Long term : 8 (Systemic, dermal and oral) mg/kg/day Consumer - Inhalation; Long term : 50 (Systemic and local) mg/m <sup>3</sup> - ; :
<b>PNEC</b>	- Fresh water; 154 mg/l - Marine water; 15.4 mg/l - STP; 100 mg/l - Sediment; 570.4 (Freshwater) mg/kg - Soil; 23.5 mg/kg

### 8.2. Exposure controls

<b>Appropriate engineering controls</b>	Provide adequate general and local exhaust ventilation. Use explosion-proof general and local exhaust ventilation.
<b>Eye/face protection</b>	Wear safety glasses. Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.
<b>Hand protection</b>	Use protective gloves. Rubber or plastic It should be noted that liquid may penetrate the gloves. Frequent changes are recommended. 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.
<b>Other skin and body protection</b>	Wear suitable protective clothing as protection against splashing or contamination. Provide eyewash station and safety shower.
<b>Hygiene measures</b>	Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes wet or contaminated. When using do not eat, drink or smoke.
<b>Respiratory protection</b>	If ventilation is inadequate, suitable respiratory protection must be worn.

## SECTION 9: Physical and Chemical Properties

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

<b>Appearance</b>	Liquid.
<b>Colour</b>	Dark blue
<b>Odour</b>	Alcoholic.
<b>Flash point</b>	13°C
<b>Upper/lower flammability or explosive limits</b>	Lower flammable/explosive limit: 3.3 Upper flammable/explosive limit: 19
<b>Vapour density</b>	1.5
<b>Relative density</b>	0.8 @ °C
<b>Solubility(ies)</b>	Miscible with water.
<b>Auto-ignition temperature</b>	425°C

## TOTAL HARDNESS INDICATOR

### 9.2. Other information

#### SECTION 10: Stability and reactivity

##### 10.1. Reactivity

##### 10.2. Chemical stability

**Stability** Stable at normal ambient temperatures.

##### 10.3. Possibility of hazardous reactions

##### 10.4. Conditions to avoid

**Conditions to avoid** Avoid heat, flames and other sources of ignition.

##### 10.5. Incompatible materials

**Materials to avoid** Alkali metals. Alkaline earth metals. Strong oxidising agents. Inorganic hydrides. Acid anhydrides. Acids.

##### 10.6. Hazardous decomposition products

#### SECTION 11: Toxicological information

##### 11.1. Information on toxicological effects

###### Acute toxicity - oral

**ATE oral (mg/kg)** 2,631.58

###### Acute toxicity - dermal

**ATE dermal (mg/kg)** 7,894.74

###### Acute toxicity - inhalation

**ATE inhalation (gases ppm)** 18,421.05

**ATE inhalation (vapours mg/l)** 78.95

**ATE inhalation (dusts/mists mg/l)** 13.16

**Inhalation** Harmful by inhalation.

**Ingestion** Damage to mucous membrane. Rapid absorption. May cause nausea, headache, dizziness and intoxication.

**Skin contact** Product has a defatting effect on skin. May be absorbed through the skin.

**Eye contact** Irritating to eyes.

**Acute and chronic health hazards** Absorption of large quantities may cause irreversible damage to the optic nerve (due to methanol), nausea, headache, vomiting, inebriation and blindness.

#### SECTION 12: Ecological Information

**Ecotoxicity** Although not classified as environmentally hazardous, harmful effects cannot be excluded in the event of improper handling or disposal.

##### 12.1. Toxicity

##### 12.2. Persistence and degradability

**Persistence and degradability** Ethanol: Biodegradable

##### 12.3. Bioaccumulative potential

##### 12.4. Mobility in soil

## TOTAL HARDNESS INDICATOR

### 12.5. Results of PBT and vPvB assessment

### 12.6. Other adverse effects

#### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

**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

#### 14.1. UN number

UN No. (ADR/RID)                      1170

UN No. (IMDG)                         1170

UN No. (ICAO)                         1170

#### 14.2. UN proper shipping name

Proper shipping name                 ETHANOL (ETHYL ALCOHOL)  
(ADR/RID)

Proper shipping name                 ETHANOL (ETHYL ALCOHOL)  
(IMDG)

Proper shipping name (ICAO)        ETHANOL (ETHYL ALCOHOL)

Proper shipping name (ADN)        ETHANOL (ETHYL ALCOHOL)

#### 14.3. Transport hazard class(es)

ADR/RID class                         3

ADR/RID label                         3

IMDG class                             3

ICAO class/division                 3

#### Transport labels



#### 14.4. Packing group

ADR/RID packing group                II

IMDG packing group                    II

ICAO packing group                    II

#### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

#### 14.6. Special precautions for user

EmS                                        F-E, S-D

Emergency Action Code                2YE

#### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

## TOTAL HARDNESS INDICATOR

### SECTION 15: Regulatory information

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

<b>National regulations</b>	Control of Substances Hazardous to Health Regulations 2002 (as amended).
<b>Guidance</b>	Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37. Approved Classification and Labelling Guide (Sixth edition) L131. COSHH essentials: Easy steps to control chemicals. Control of Substances Hazardous to Health Regulations.

#### 15.2. Chemical safety assessment

### SECTION 16: Other information

<b>General information</b>	Under REACH Material Safety Datasheets (MSDS) are referred to as Safety Datasheets (SDS).
<b>Revision comments</b>	Change to section 14 Change to section 1
<b>Revision date</b>	29/04/2016
<b>Revision</b>	4
<b>Supersedes date</b>	18/04/2016
<b>SDS number</b>	10194
<b>Risk phrases in full</b>	R11 Highly flammable. R2 Risk of explosion by shock, friction, fire or other sources of ignition. R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R21/22 Harmful in contact with skin and if swallowed. R23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R36 Irritating to eyes. R36/38 Irritating to eyes and skin. R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. R40 Limited evidence of a carcinogenic effect. R43 May cause sensitisation by skin contact. R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed. R50 Very toxic to aquatic organisms. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R68/20/21/22 Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.



## TOTAL HARDNESS INDICATOR

### Hazard statements in full

H225 Highly flammable liquid and vapour.

H290 May be corrosive to metals.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H332 Harmful if inhaled.

H351 Suspected of causing cancer.

H370 Causes damage to organs .

H371 May cause damage to organs .

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

EUH208 Contains HYDROXYLAMMONIUM CHLORIDE. May produce an allergic reaction.