SAFETY DATA SHEET
LACTOL

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

1.1. Product identifier

Product name	LACTOL
Product No.	FP078
Container size	25 Litre, 200 Litre, 1000 Litre, Bulk

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

Identified uses	Industrial Detergent
Uses advised against	Uses other than those identified are not recommended.

1.3. Details of the supplier of the safety data sheet

Supplier	Water Technology Limited Togher Industrial Estate Cork Ireland Tel: 00353-(0)21-4965600 Fax: 00353-(0)21-4313876 E-mail: info@wtlireland.com
Contact Person	SDS contact: info@wtlireland.com

1.4. Emergency telephone number

National Emergency Telephone Number
353-21-4965600 (08:00 to 17:30)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Not classified.
Human health	Skin Corr. 1A - H314
Environment	Not classified.

Classification (1999/45/EEC) C;R35.

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

2.2. Label elements

Contains SODIUM HYDROXIDE

Detergent Labelling:

< 5% EDTA and salts thereof

Label In Accordance With (EC) No. 1272/2008

Signal Word Danger

Hazard Statements

H314	Causes severe skin burns and eye damage.

Precautionary Statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338	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 or doctor/physician.
P501	Dispose of contents/container to …

Supplementary Precautionary Statements

P260	Do not breathe vapour/spray.
P264	Wash contaminated skin thoroughly after handling.
P321	Specific treatment (see medical advice on this label).
P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

2-BUTOXYETHANOL < 1%

CAS-No.: 111-76-2 EC No.: 203-905-0

Classification (EC 1272/2008)	Classification (67/548/EEC)
Acute Tox. 4 - H302	Xn;R20/21/22
Acute Tox. 4 - H312	Xi;R36/38
Acute Tox. 4 - H332	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	

SODIUM HYDROXIDE 10-30%

CAS-No.: 1310-73-2 EC No.: 215-185-5

Classification (EC 1272/2008)	Classification (67/548/EEC)
Skin Corr. 1A - H314	C;R35

TETRASODIUM ETHYLENE DIAMINE TETRAACETATE 1-5%

CAS-No.: 64-02-8 EC No.: 200-573-9

Classification (EC 1272/2008)	Classification (67/548/EEC)
Eye Irrit. 2 - H319	Xi;R36.

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

General information

Speed is essential. Get medical attention immediately!

Inhalation

Remove victim immediately from source of exposure. Keep the affected person warm and at rest. Get prompt medical attention. If respiration stops or shows signs of failing, apply artificial respiration.

Ingestion

Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Transport immediately to hospital and bring along these instructions.

Skin contact

Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Continue to rinse for at least 15 minutes and seek medical attention. Get medical attention promptly if symptoms occur after washing.

Eye contact

Use Diphoterine Eyewash immediately, if available or flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. Get medical attention immediately. In case of difficulty of opening the lids, administer ananalgesic eye wash (oxybuprocaine).

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

Inhalation

Corrosive to respiratory system. Symptoms: Breathing difficulties, cough, chemical pneumonitis, pulmonary oedema. Repeated or prolonged exposure: Risk of sore throat, nose bleeds, chronic bronchitis.

Ingestion

If ingested, severe burns of the mouth and throat as well as a danger of perforation of the oesophagus and the stomach. Symptoms: Nausea, abdominal pain, bloody vomiting, diarrhoea, suffocation, cough, severe shortness of breath.

Skin contact

Causes severe burns. Symptoms:Redness, swelling of tissue, burn.

Eye contact

If ingested, severe burns of the mouth and throat as well as a danger of perforation of the oesophagus and the stomach. Symptoms: Redness, lachrymation, swelling of tissue, burn.

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

Harmful by ingestion, inhalation, skin and eye contact. Local corrosive effects predominate. No known systemic effects. No specific antidotal treatment, symptomatic support required. No known delayed effects after single exposure apart from consequence of local tissue damage.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

The material is non-combustible and non-explosive. Containers should be kept cool with water spray. Use extinguishing media appropriate to the surrounding fire.

Unsuitable extinguishing media

None known.

5.2. Special hazards arising from the substance or mixture

Unusual Fire & Explosion Hazards

Contact with some metals can produce flammable hydrogen gas. Contact with some organic chemicals can produce violent or explosive reactions.

Specific hazards

The product is not flammable. Not combustible. Hazardous decomposition products formed under fire conditions. Gives of hydrogen by reaction with metals.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Wear chemical resistant oversuit. Cool containers/tanks with water spray.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet. Prevent further leakage or spillage if safe to do so. Keep away from incompatible products. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ventilate the area. Wear suitable protective clothing.

6.2. Environmental precautions

Do not allow ANY environmental contamination. If spillage or contaminated washings cause contamination of water courses, drains or vegetation inform relevent authorities.

6.3. Methods and material for containment and cleaning up

DO NOT TOUCH SPILLED MATERIAL! Small quantities may be flushed to drains with plenty of water. Large spillages : Contain spillages with sand, earth or any suitable adsorbent material. Remove and dispose of residues. Wash the spillage area with water. Inform Authorities if large amounts are involved.

6.4. Reference to other sections

See Section 7 for information on safe handling. For personal protection, see section 8.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid contact with skin and eyes. Keep away from acids and chlorinated hydrocarbons. Care should be taken when diluting solutions. Do not spray. Avoid generation of aerosols or mists.

7.2. Conditions for safe storage, including any incompatibilities

Store in original container. Keep in a well ventilated place. Keep in properly labelled containers. Keep container closed. Keep in a bunded area. Keep away from incompatible products. Suitable packaging material-Stainless steel. Unsuitable material-No data available.
Storage Class

Corrosive storage.

7.3. 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

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
2-BUTOXYETHANOL	WEL	25 ppm		50 ppm		
SODIUM HYDROXIDE	WEL				2 mg/m3	

WEL = Workplace Exposure Limit.

Ingredient Comments

WEL = Workplace Exposure Limits

8.2. Exposure controls

Protective equipment

Process conditions

Provide eyewash, quick drench.

Engineering measures

Ensure adequate ventilation of the working area. Apply technical measures to comply with the occupational exposure limits.

Respiratory equipment

Breathing apparatus should be worn if concentrations exceed the OEL due to inadequate ventilation of the work area. Recommended Filter type:P2.

Hand protection

Use suitable protective gloves if risk of skin contact. PVC gloves are recommended. Impervious gloves in compliance with EN374:2003

Eye protection

Wear close fitting chemical goggles or safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166 (EU).

Other Protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Wash hands during breaks and at the end of the shift. Avoid contact with the eyes. Ensure that eyewash stations and safety showers are close to the workstation location. Take of contaminated clothing and shoes immediately. Handle in accordance with good industrial hygiene and safety practice.

Personal protection

Direct contact with the skin must be prevented. The generation of mists in areas where ventilation is insufficient for removal should be avoided.

Skin protection

Alkali-resistant protective clothing.

Environmental Exposure Controls

Dispose of rinse water in accordance with local and national regulations.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Light (or pale).
Odour	Detergent.
Solubility	Soluble in water.

Initial boiling point and boiling range (°C)

Not determined.

Relative density	1.260 - 1.280 @ 20 C

Vapour density (air=1)

Not determined.

Vapour pressure

Not determined.

Evaporation rate

Not determined.

pH-Value, Conc. Solution	> 12
Viscosity	Low

Decomposition temperature (°C)

Not determined.

Odour Threshold, Lower

Not determined.

Odour Threshold, Upper

Not determined.

Flash point (°C)

Not determined.

Auto Ignition Temperature (°C)

Not determined.

Flammability Limit - Lower(%)

Not determined.

Flammability Limit - Upper(%)

Not determined.

Partition Coefficient (N-Octanol/Water)

Not relevant

Explosive properties

Not determined.

Oxidising properties

Not determined.

Comments	Information given concerns the concentrated solution.

9.2. Other information

No further information available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Potential for exothermic hazard. May be corrosive to metals.

10.2. Chemical stability

Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Gives of hydrogen by reaction with metals. Exothermic reaction with strong acids.
Polymerisation Description
While the solution does not itself polymerise, it will polymerise acetaldehyde, acrolein, or acrylonitrile.

10.4. Conditions to avoid

Avoid low temperature storage-See Handling and Storage (Section 7). Avoid high temperatures.

10.5. Incompatible materials

Materials To Avoid
Can react violently if in contact with acids and chlorinated hydrocarbons. Highly reactive with aluminium, zinc, lead, tin and alloys of these metals producing flammable hydrogen gas. Can react with sugar residues to form carbon monoxide.

10.6. Hazardous decomposition products

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxicological information
No experimental data available for preparation.

Acute toxicity:
No data available. Will immediately cause corrosion of and damage to gastrointestinal tract.
No data available. Corrosive.
No data available. Mist is severe irritant to the respiratory tract.

Respiratory or skin sensitisation:
No data available. Corrosive.

Germ cell mutagenicity:
Animal testing did not show any mutagenic effects. In vitro tests did not show mutagenic effects.

Carcinogenicity:
No data available.

Reproductive Toxicity:
Effect on fertility, foetotoxic effect, no observed effect.

Specific target organ toxicity - repeated exposure:
STOT - Repeated exposure
Not applicable.

General information
Long Term Effects of Over Exposure : Acute effects predominate.

Inhalation
Mist is severely irritant to the respiratory tract. Effect may vary from irritation of the nasal mucous membrane to severe lung irritation.

Ingestion

Will immediately cause corrosion of and damage to the gastrointestinal tract. Lethal dose of sodium hydroxide for man is approximately 5 grams.

Skin contact

Corrosive. May cause severe burns with permanent skin damage which are slow to heal. Repeated or prolonged contact to dilute solutions may cause dermatitis.

Eye contact

Severe irritant/corrosive to eyes. May cause severe damage with formation of corneal ulcers and permanent impairment of vision.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Concentrations greater than 10 ppm, especially in fresh water or a pH value equal to or greater than 10.5 may be fatal to fish and other aquatic organisms. Can cause damage to aquatic plants. No experimental data available for preparation.

12.1. Toxicity

Large discharges may contribute to the alkalisation of water and may be fatal to fish and other aquatic life. Can cause severe damage to aquatic plants. Crustaceans, Ceriodaphnia sp., EC50, 48 h, 40.4 mg/l (Sodium Hydroxide).

Acute Fish Toxicity

Effects on effluent treatment: Concentrations sufficient to render effluent alkaline may cause damage to effluent treatment organisms.

LC 50, 96 Hrs, Fish mg/l	35-189 (Sodium Hydroxide)

12.2. Persistence and degradability

Abiotic degradation: Air result: neutralisation by natural alkalinity. Water result: Ionization/neutralization. Conditions: pH. Soil Result: ionization/neutralization.

Degradability

Sodium hydroxide degrades readily by reaction with the natural carbon dioxide in the air.

12.3. Bioaccumulative potential

Bioaccumulative potential

The product is not bioaccumulating.

Partition coefficient

Not relevant

12.4. Mobility in soil

Mobility:

Water, Soil Sediments: Considerable solubility and mobility. Soil/sediments: Mobile, soluble, ionization/neutralisation. Air: Chemical degradation.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. Small quantities of material can be disposed of by neutralising with weak hydrochloric acid (10%) and running to drain. For large quantities, a specialist waste disposal firm should be used. Dilute with plenty of water. Solutions with high pH-value must be neutralised before discharge. Neutralise with acid. Contaminated packaging: Where possible, recycling is preferred to disposal or incineration. Clean container with water. Dispose of as unused product, in accordance with local and national regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (IMDG)	1719
UN No. (ICAO)	1719

14.2. UN proper shipping name

Proper Shipping Name	CAUSTIC ALKALI LIQUID, N.O.S. (SODIUM HYDROXIDE, TETRASODIUM ETHYLENE DIAMINE TETRAACETATE)

14.3. Transport hazard class(es)

ADR/RID/ADN Class	8
ADR/RID/ADN Class	Class 8: Corrosive substances.
ADR Label No.	8
IMDG Class	8
ICAO Class/Division	8

Transport Labels

14.4. Packing group

ADR/RID/ADN Packing group	III
IMDG Packing group	III
ICAO Packing group	III

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant
No.

14.6. Special precautions for user

EMS	F-A, S-B
Emergency Action Code	2R
Hazard No. (ADR)	80
Tunnel Restriction Code	(E)

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

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

Environmental Listing

The List of Wastes (Wales) Regulations 2005. 2005 Welsh Statutory Instrument (WSI), number W.148 (1820), 14 July 2005. The list of Wastes (England) Regulations 2005. 2005 Statutory Instrument (SI), NUMBER 895, 6 April 2005, as amended EH40/2005. Workplace Exposure Limits, as amended through 1.10.2007 (WELs). Published by the Health and Safety Executive (HSE). Issued under the Control of Substances Hazardous to Health Regulations-as amended.

Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

Approved Code Of Practice

Safety Data Sheets for Substances and Preparations. Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes

Workplace Exposure Limits EH40. CHIP for everyone HSG(108).

LACTOL

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. Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the Classification, Packaging and Labelling of dangerous preparations , as amended. Regulation (EC) No. 1272/2008 of the European Parliment and of the Council of 16 December 2008 on Classification, Labelling and Packaging of substances and mixtures, as amended. Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended. Commission Directive 2000/39/EC on the protection of the health and safety of workersd from the risks related to chemical agents at work as amended. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste.

15.2. Chemical Safety Assessment

Currently, we do not have any information from our supplier about this.

SECTION 16: OTHER INFORMATION

General information

All personnel involved in the use, handling and transport of this product should be familiar with the first aid measures and personal protective equipment requirements associated with the material.

Information Sources

Supplier Safety Data Sheets

Revision Comments

All sections have been revised.

Issued By	Compliance Dept.
Revision Date	20/05/2015
Revision	01
Supersedes date	15-03-2010
SDS No.	10016
Safety Data Sheet Status	Approved.
Date	20/05/2015
Signature	P.Corcoran

Risk Phrases In Full

R35	Causes severe burns.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36/38	Irritating to eyes and skin.
R36	Irritating to eyes.

Hazard Statements In Full

H319	Causes serious eye irritation.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.