SAFETY DATA SHEET
SULPHURIC ACID 96%

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

1.1. Product identifier

Product name	SULPHURIC ACID 96%
Product No.	FP396
Container size	25 Litre, 200 Litre, 1000 Litre, Bulk
REACH Registration number	01-2119458838-20-xxxx
CAS-No.	7664-93-9
EU Index No.	016-020-00-8
EC No.	231-639-5

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

Identified uses	Industrial chemical.
Uses advised against	At this moment we have not identified any uses advised against.

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.

Human health
See section 11 for toxicological information.
Environment
See section 12 for environmental information.
Physical and Chemical Hazards
See section 9 for physicochemical information.

2.2. Label elements

EC No.	231-639-5
Contains	SULPHURIC ACID 96%

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

SULPHURIC ACID 96%

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 dust/fume/gas/mist/vapours/spray.
	P264	Wash … thoroughly after handling.
	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.
	P321	Specific treatment (see … on this label).
	P363	Wash contaminated clothing before reuse.
	P405	Store locked up.

2.3. Other hazards

For results of PBT and vPvB assessment, see section 12.5.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

SULPHURIC ACID ...%		60-100%
CAS-No.: 7664-93-9	EC No.: 231-639-5	

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

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

REACH Registration number	01-2119458838-20-xxxx
CAS-No.	7664-93-9
EU Index No.	016-020-00-8
EC No.	231-639-5

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information

SPEED IS ESSENTIAL IN ALL CASES OF EXPOSURE. Take off all contaminated clothing immediately.

Inhalation

Remove to fresh air. Keep warm and at rest. If there is respiratory distress, give oxygen by trained person. If respiration stops or shows sign of failure, apply artificial respiration.

Ingestion

Call a physician immediately. Clean mouth with water and drink plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Treatment may be needed for pain and shock.

Skin contact

Immediately wash with water, preferably under a shower, removing contaminated clothing while washing proceeds. Obtain medical attention if blistering occurs or if irritation persists. Contaminated clothing should be washed or dry cleaned before re-use. If available, use Diphoterine burn spray.

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.

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

General information

See section 11 for more detailed information on health effects and symptoms.

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

Foam, carbon dioxide or dry powder. The product is non-combustible. Do not use water if avoidable.

5.2. Special hazards arising from the substance or mixture

Unusual Fire & Explosion Hazards

May decompose in a fire giving off toxic fumes. Hazardous decomposition products: Sulphur oxides. Reacts exothermic with water.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Cool closed containers exposed to fire with water spray.

Protective equipment for fire-fighters

A self contained breathing apparatus and suitable protective clothing must be used in fire conditions.

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. Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours or spray mist.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains, inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Neutralize with soda and flush with plenty of water. Taking into account local regulations, the product may be disposed of as waste water after neutralization. Clean-up methods-small spillage. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed containers for disposal. Treat recovered material as described in the section "Disposal Considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Keep container tightly closed. Use personal protective equipment. Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity. When diluting, always add the product to water. Never add water to the product. Hygiene Measures: Keep away from food, drink and animal feedstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of work day. Take off all contaminated clothing immediately. Avoid contact with eyes, skin and clothing. Avoid inhalation of vapours and spray mists.

SULPHURIC ACID 96%

7.2. Conditions for safe storage, including any incompatibilities

Keep in an area equipped with acid resistant flooring. Store in original container. The product is not flammable. Normal measures for preventive fire protection. Gives off hydrogen by reaction with metals. Risk of explosion. Keep tightly closed in a dry and cool place. Keep in a well -ventilated place. Product is hygroscopic. Keep away from food, drink and animal feeding stuffs. Keep away from combustible material.

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
SULPHURIC ACID ...%			1 mg/m3			

Ingredient Comments

EU ELV, Time Weighted Average (TWA); Mist. 0.05mg/m3. Indicative. EH40 WEL, Time Weighted Average (TWA): 0.05mg/m3. Mist. Thoracic fraction. ELV (IE), Time Weighted Average (TWA); Mist . 0.05mg/m3. Indicative OELV.

8.2. Exposure controls

Protective equipment

Engineering measures

Provide adequate ventilation, including appropriate local extraction to ensure that the defined workplace exposure limit is not exceeded.

Respiratory equipment

If ventilation is insufficient, suitable respiratory protection must be provided. Required if vapours or aerosol are released. Recommended filter type: Combination filter :-E-P2.

Hand protection

The glove material has to be impermeable and resistant to the product/the substance/the preparation. Take note of the information given by the producer concerning permeability and break through times and of special workplace conditions (mechanical strain, duration of contact). Protective gloves should be replaced at first signs of wear. The following materials are suitable:- Fluorinated rubber, Break through time: >/= 8 h, Glove thickness :0.5mm. Butyl-rubber: Break through time: >/= 2 h, Glove thickness: 0.5mm.

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 suitable protective clothing as protection against splashing or contamination. Provide eyewash station and safety shower.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes wet or contaminated. When using, do not eat, drink or smoke.

Personal protection

Wear chemical protective clothing. Protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective equipment to chemicals should be ascertained with the respective supplier.

Skin protection

Acid-resistant protective clothing.

Environmental Exposure Controls

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

SULPHURIC ACID 96%

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Colourless or slight coloured.
Odour	Odourless.
Solubility	Completely miscible.
Initial boiling point and boiling range (°C)	~ 290
Relative density	1.84 @ 20 C
Vapour density (air=1)	3.4
	<0.01 hPa (20 C).
Evaporation rate	
Data lacking.	
pH-Value, Conc. Solution	<1 @20 C
Viscosity	21 mPas
Decomposition temperature (°C)	~ 338 C
Odour Threshold, Lower	
Data lacking.	
Odour Threshold, Upper	
Data lacking.	
Flash point (°C)	
Not applicable.	
Auto Ignition Temperature (°C)	
Not applicable.	
	The product is not flammable.
Partition Coefficient (N-Octanol/Water)	
Not known.	
Oxidising properties	
Not determined.	

9.2. Other information

Mol. Weight	98.1

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Corrosive to metals.

10.2. Chemical stability

Stable under normal temperature conditions and recommended use. Exothermic reaction with water. If stored correctly, it will not decompose over time.

10.3. Possibility of hazardous reactions

Gives off hydrogen by reaction with metals. Reacts exothermic with water.

10.4. Conditions to avoid

Reacts with the following substances: Bases, water. Thermal Decomposition ~ 338 C.

10.5. Incompatible materials

Materials To Avoid

Organic materials, Bases, Reducing agents, Metals.

10.6. Hazardous decomposition products

Sulphur oxides. Stable under recommended storage conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

SULPHURIC ACID 96%

Toxicological information

If ingested, severe burns of the mouth and throat as well as a danger of perforation of the oesophagus and the stomach.

Acute toxicity:

Acute Toxicity (Oral LD50)

2140 mg/kg Rat

(rat, male and female) (OECD Test Guideline 401).

Acute Toxicity (Dermal LD50)

Data lacking.

Acute Toxicity (Inhalation LC50)

Data lacking.

Skin Corrosion/Irritation:

Very corrosive (rabbit).

Serious eye damage/irritation:

Very corrosive (rabbit). Risk of serious damage to eyes.

Respiratory or skin sensitisation:

Respiratory sensitisation

Data lacking.

Skin sensitisation

Data lacking.

Germ cell mutagenicity:

It is not considered mutagenic.

Carcinogenicity:

Did not show carcinogenic or teratogenic effects in animal experiments.

Reproductive Toxicity:

Animal testing did not show any effects on fertility.

Specific target organ toxicity - single exposure:

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure:

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard:

No aspiration toxicity classification.

Inhalation

Inhalation (Acute Effect): Exposure to the mist or fume at concentrations above the OEL causes moderate to severe irritation of the nose, throat and upper respiratory tract. High concentrations may cause immediate respiratory difficulty and serious damage to lung tissue. Inhalation (Chronic Effect): Prolonged or repeated exposure to mists may cause dental erosion, chronic inflammation of the upper respiratory tract, bronchitis or lung damage. The WHO International Agency for Research on Cancer (IARC) have concluded that occupational exposure to strong inorganic mists containing sulphuric acid is carcinogenic to man. Although no direct link has been established between sulphuric acid and the frequency of cancer in man it is advisable to minimise exposure to any mist or aerosol during the use of sulphuric acid and if it cannot be avoided, it should be kept below the O.E.S.

Ingestion

Severe corrosion of the mouth, throat and digestive tract.

Skin contact

Liquid: Severe burns and tissue destruction. Mist or fume: Irritation may cause burns at high concentrations. Skin absorption: No systemic effects.

Eye contact

Liquid: Severe burns and tissue destruction. Mist or fume: Irritation or burns at high concentration.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

The product may affect the acidity (pH factor) in water with risk of harmful effects to aquatic organisms.

12.1. Toxicity

Acute Fish Toxicity

Toxic to fish and algae. Concentrations greater than 1-2mg/l may be lethal to fish. Lowering pH below about 5 could induce fatalities in aquatic life.
LC50 : 42mg/l (Gambusia affinis; 96 h).
EC50: 29mg/L (Daphnia magna; 24h). EC50: 70-80mg/L (Crangon crangon (Shrimp); 48h)
No data available.
EC50: 58mg/l (activated sludge; 120h).

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulative potential

No data available on bioaccumulation.

Partition coefficient

Not known.

12.4. Mobility in soil

Mobility:

No data available.

12.5. Results of PBT and vPvB assessment

Not applicable.

12.6. Other adverse effects

Harmful effects to aquatic organisms due to pH shift. Neutralisation is normally necessary before waste water is discharged into water treatment plants. Do not flush into surface water or sanitary sewer system.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product: Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services. Contaminated Packaging: Empty contaminated packaging: Empty contaminated packaging thoroughly. They can be recycled after thorough and proper cleaning. Packagings that cannot be cleaned are to be disposed of in the same manner as the product. European Waste Catalogue Number: No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN)	1830
UN No. (IMDG)	1830
UN No. (ICAO)	1830

14.2. UN proper shipping name

Proper Shipping Name	SULPHURIC ACID

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

SULPHURIC ACID 96%

ICAO Class/Division 8

Transport Labels

14.4. Packing group

ADR/RID/ADN 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-A, S-B
Emergency Action Code	2P
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

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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments. EU Regulation 273 / 2004, Drug Precursors, Category 3 Scheduled Substance Combined Nomenclature (CN) denomination. Scheduled substance Combined Nomenclature (CN) code 2807 00 10. EU Regulation No. 1451 / 2007 (Biocides), Annex 1, Active substances identified as existing (OJ (L325). Listed EC Number: 2312-639-5.

15.2. Chemical Safety Assessment

A chemical safety assessment has been carried out.

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	02-02-2015

SULPHURIC ACID 96%

Revision	01
Supersedes date	06-10-2010
SDS No.	10349
Safety Data Sheet Status	Approved.
Date	02-02-2015
Signature	P.Corcoran
Risk Phrases In Full	
R35	Causes severe burns.
Hazard Statements In Full	
H314	Causes severe skin burns and eye damage.