GOULDING

SAFETY DATA SHEET

Sulphuric Acid 96%

1. Identification of the substance/preparation and of the company/undertaking

Date issued	14th January 2011
Revision	2
Product name	Sulphuric acid 96 %
Chemical name	Battery acid, bov, dihydrogensulphate, dipping acid, eletrolyte acid, mattling acid
REACH registration no.	01-2119458838-20-0096
CAS no.	7664-93-9
EC no.	231-639-5
Formula	H2SO4

Supplier

Company name	Goulding Chemicals Ltd.
Postal address	Centre Park Road, Marina, Cork, Ireland
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2. Hazards identification

Classification	C; R35
Classification CLP	Skin Corr 1A; H314
Description of hazard	Causes severe burns.
Other hazards	Reacts violently with water. May influence pH in water. In use burnable/ explosive mixture of vapour/aerosols may be produced. Danger for burns

3. Composition/information on ingredients

Component name	Identification	Classification	Contents
Water	CAS no.: 7732-18-5		4 %
Sulphuric acid ..%	CAS no.: 7664-93-9 EC no.: 231-639-5	C; R35	95,9 - 100 %

Column headings	CAS no. = Chemical Abstracts Service; EU (Einecs or Elincs number)=European inventory of Existing Commercial Chemical Substances; Ingredient name = Name as specified in the substance list (substances that are not included in the substance list must be translated, if possible). Contents given in; %, %wt/wt, %vol/wt, %vol/vol, mg/m3, ppb, ppm, weight%, vol%
HH/HF/HE	T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritating, E= Explosive, O = Oxidizing, F+ = Extremly flammable, F = Very flammable, N = Environmental hazard

4. First-aid measures

General	CAUTION! First aid personnel must be aware of own risk during rescue! Remove victim immediately from source of exposure. Provide rest, warmth and fresh air. Burns must be treated by doctors. Place unconscious person on the side in the recovery position and ensure breathing can take place. If heart stops, heart-compression must be carried out. In case of accidents: Call an ambulance immediately! Show the MSDS.
Inhalation	Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/oxygen. Get medical attention.
Skin contact	Remove contaminated clothes and rinse skin thoroughly with water. Continue to rinse for at least 15 minutes and seek medical attention. Chemical burns must be treated by a physician. Use "water gel". Clothes must be washed before re-use.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Immediately transport to hospital or eye specialist.
Ingestion	Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Transportion to hospital. Do not give victim anything to drink if he is unconscious. DO NOT INDUCE VOMITING!

5. Fire-fighting measures

Suitable extinguishing media	Water. Foam,carbon dioxide or dry powder. Cool containers exposed to heat with water spray and remove container, if no risk is involved.
Improper extinguishing Media	Water-jet.
Fire and explosion Hazards	It may develop explosive gases in case of fire. Not flammable
Personal protective equipment	Fire brigade must use fresh-air helmet.
Other Information	CO,CO2. In case of fire: CO2, CO are developed SOx

6. Accidental release measures

Personal precautions	Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours and aerosols and contact with skin and eyes. In case of splashes: Wear apron or special protective clothing.
Environmental precautions	Do not contaminate water sources or sewer. Do not discharge into drains,water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment.
Methods for cleaning	Absorb with inert, damp, non-combustible material, then flush area with water. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Dangerous waste.

7. Handling and storage

Handling	Mechanical ventilation may be required. Do not eat, drink or smoke when using the product. Avoid inhalation of vapours and contact with skin and eyes. Eye wash facilities and emergency shower must be available when handling this product. Wear full protective clothing for prolonged exposure and/or high concentrations. Never pour water into acid/base. Dilute by slowly pouring the product into water while stirring. Avoid splashes.
Storage	Avoid storage with strong oxidizers, bases, metals, halegonated substances. Closed container. Ventilated area. Original container. Store dry and at temperature below 25 C. Avoid sunlight.

8. Exposure controls/personal protection

Exposure limit values

Component name	Identification	Value
Water	CAS no.: 7732-18-5	
Sulphuric acid ..%	CAS no.: 7664-93-9	8 h.: 0,1 aerosol mg/m3
	EC no.: 231-639-5	K

Exposure controls

Occupational exposure controls	TLV.: Sulphuric acid aerosol: 0,1 mg/m3 Provide eyewash, quick drench. Water and shower must be available. Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours.
Respiratory protection	Wear air-supplied mask in confined areas. In case of inadequate ventilation or risk of inhalation damp /mist, suitable respiratory equipment with combination filter (type E2/P2) can be used.
Hand protection	Use gauntlet type rubber gloves. Rubber gloves are recommended. Viton rubber (fluor rubber). Break-throughtime> 8 hours.
Eye protection	Use approved safety goggles or face shield.
Skin protection (other than of the hands)	Wear appropriate clothing to prevent any possibility of skin contact. Wear rubber footwear. AVOID ALL SKIN AND RESPIRATORY CONTACT!
Other Information	When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet. Isolate contaminated clothing and wash before reuse. Shower after work. Eating, smoking and water fountains prohibited in immediate work area.

9. Physical and chemical properties

Physical state	Oily
Odour	Slightly pungent odour
Colour	Colourless Brownish
Solubility description	Ethanol. Methanol.
Solubility in water	Soluble.
Specific gravity	**Value:** 1,84 g/ml **Comments:** 98,3% acid 20 C
Melting point/melting range	**Value:** 3 °C **Comments:** 98,3 %
Boiling point	**Value:** 332,5 °C **Comments:** 98,3% 760 mmHg
Vapour density	**Value:** 2,8 **Comments:** 98,3 %

Other physical and chemical properties

Comments	Moleculeweight:58,07

10. Stability and reactivity

Conditions to avoid	Hygroscopic.
Materials to avoid	Bases, alkalies (inorganic). Amines. Alkali metals. Strong alkalies. Alcohols, glycols. Massive, solid metal. Nitriter. Inorganic peroxides. Organic cyanides (nitriles). Avoid contact with oxidising agents (e.g. nitric acid, peroxides and chromates).
Hazardous decomposition products	Explosive gases/vapours/fumes of: Hydrogen. SO2
Stability	Stable under the prescribed storage conditions.

11. Toxicological information

Toxicological Information:

LD50 oral	**Value:** 2440 mg/kg **Test animal species:** rat **Comments:** LD50

Components' toxicological data

Other information regarding health hazards

General	Causes severe burns.
Inhalation	Aerosols may be corrosive. Vapours are corrosive. After 24-36 hours, injured persons may develop serious shortness of breath and lung oedema. May give damage over time to teeth. Serious damage to the lining of nose, throat and lungs.
Skin contact	Strongly corrosive. May cause deep tissue damage. May give wounds which are difficult to heal.
Eye contact	Strongly corrosive. Causes severe pains and serious eye damage. Immediate first aid is imperative. Risk of serious damage to eyes.
Ingestion	May have a corrosive effect on the digestive canal. Strongly corrosive. Even small amounts may cause very severe internal damage and may be fatal. Diarrhoea.
Chronic effects	May give permanent damage to eyes if first aid is not carried out at once.

12. Ecological information

Toxicological Information:

Acute aquatic, fish	**Value:** < 100 mg/l **Method of testing:** LC50 **Duration:** 96 hours
Acute aquatic, algae	**Value:** 24 mg/l **Method of testing:** EC50 **Algae, species:** Seleastrum capricomutum **Duration:** 72 hours
Aquatic, comments	Crustaceans: LC 50/48 : 10-100 mg/l Prawn : LC50/48 hours: 80-90 mg/l

Components' toxicological data

Other ecological information

Ecotoxicity	Large amounts of the product may affect the acidity (pH-factor) in water with possible risk of harmful effects to aquatic organisms.
Bioaccumulative potential	Will not bio-accumulate. Log Pow: <3
Other adverse effects/Remarks	Pollute earth and water.

13. Disposal considerations

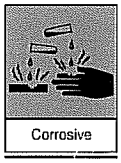
EWC waste code	EWC: 060101 sulphuric acid and sulphurous acid
Product classified as hazardous waste	Yes
Packaging classified as hazardous waste	Yes
Specify the appropriate methods of Disposal	Recover and reclaim or recycle, if practical. Absorb in vermiculite or dry sand, dispose in licensed special waste.

14. Transport information

Proper Shipping Name	Sulphuric acid 96 %
Product name (national)	Sulphuric acid 96%
Dangerous goods ADR	**Status:** Yes **UN no.:** 1830 **Class:** 8 **Hazard no.:** 80 **Packing group:** II
Dangerous goods RID	**Status:** Yes **UN no.:** 1830 **Class:** 8 **Packing group:** II
Dangerous goods IMDG	**Status:** Yes **UN no.:** 1830 **Class:** 8 **Packing group:** II **IMDG Marine pollutant:** ja **EmS:** F-A,S-B
Dangerous goods ICAO/IATA	**Status:** Yes **UN no.:** 1830 **Class:** 8 **Packing group:** II

15. Regulatory information

HAZARD SYMBOL



Composition on the label	Water: 4 %, Sulphuric acid ..%: 95,9 - 100 %
EC no.	231-639-5
R phrases	R35 Causes severe burns.
S phrases	S2 Keep out of the reach of children. S51 Use only in well-ventilated areas. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S30 Never add water to this product. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HAZARD PICTOGRAM (CLP)

Signal word	Danger
Hazard statements	H314 Causes Severe skin burns and eye damage.
Precautionary statements	P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P363 Wash contaminated clothing before reuse. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
References (laws/regulations)	Commission Decision 2000/532/EC as amended by Decision 2001/118/EC establishing a list of wastes and hazardous waste pursuant to Council Directive 75/442/EEC on waste and Directive 91/689/EEC on hazardous waste with amendments. MSDS is developed/ revised after 1 ATP til CLP
Declaration no.	30962

15. Regulatory information continued

Relevant Statutory Instruments

Carriage of Dangerous Goods by Road Regulations 2007, S.I. 288 of 2007

Carriage of Dangerous Goods by Road (ADR miscellaneous provisions) Regulations 2007,

S.I.289 of 2007

Carriage of Dangerous Goods by Road Act 1998 (Appointment of Competent Authorities) Order 2007, S.I. 290 of 2007

Carriage of Dangerous Goods by Road Act 1998 (Fees) Regulations 2007, S.I. 291 of 2007

Chemicals Act 2008, No. 13 of 2008

ADR 2011

Safety, Health and Welfare at Work (Chemical Agents) Regulation 2001, SI 619 of 2001

16. Other information

List of relevant R phrases (under headings 2 and 3). R35 Causes severe burns.

Note:
The information contained in this data sheet is copied from the safety data sheet provided by the manufacturer. The information is given in good faith and to the best of our knowledge but no guarantee, implied or otherwise, is made.

Revision History

Changes	Responsible	Date
Rev.1: SDS re-issued.	M.Cronin	13th Jan.11
Rev.2: REACH registration no. inserted in Section 1.	M.Cronin	14th Jan.11