AQUACIDE

MATERIAL SAFETY DATA SHEET

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1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY UNDERTAKING

PRODUCT FORM	SUBSTANCE
SUBSTANCE NAME	AQUACIDE - EN899
CHEMICAL DESCRIPTION	STRONG INORGANIC ACID
EC INDEX NO	016-020-00-8
EC NO	231-639-5
CAS NO	7664-93-9
REACH REGISTRATION NO	01-2119458838-20

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Main use category	Industrial use,Professional use
Use of the substance/preparation	Agent of pH regulation Agent for stripping Cleaning agents Use in laboratory Catalyst
1.2.2 USES ADVISED AGAINST	No additional information available

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

RS Hygiene Ltd, The Street,Worlington, Suffolk IP28 728 Tel: 03331230202

2 HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP] Skin Corr. 1A H314

Full text of H-phrases and EUH : see section 16.

Classification according to Directive 67/548/EEC or 1999/45/EC C; R35

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

Corrosive. Cause burns whose gravity depends on the concentration, the time of contact and the affected part of the body. Reacts violently with water. Risk projections.Catalyst

2.2. LABEL ELEMENTS

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Signal Word:	**DANGER**
Hazard statements (CLP)	H314 - Causes severe skin burns and eye damage
Precautionary statements (CLP)	P260 - Do not breathe dust/fume/gas/mist/vapours/spray 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 P304+P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
2.3. Other hazards	No data available.

3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Substance type :	Mono-constituent
Name :	SULFURIC ACID 55% - EN899 CAS No. : 7664-93-9 EC no : 231-639-5 EC index no : 016-020-00-8

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]
Sulphuric acid	(CAS No.) 7664-93-9 (EC no) 231-639-5 (EC index no) 016-020-00-8 (REACH-no) 01-2119458838-20	55	Skin Corr. 1A, H314

Name	Product identifier	% 67/548/EEC	Classification according to Directive
Sulphuric acid	(CAS No.) 7664-93-9 (EC no) 231-639-5 (EC index no) 016-020-00-8 (REACH-no) 01-2119458838-20	55	C; R35

3.2. Mixtures

Not applicable

Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

4.1. Description of first aid measures

First aid measuresl — INTERVENE VERY QUICKLY - SEEK MEDICAL ATTENTION - NEVER GIVE SOMETHING TO DRINK OR INDUCE VOMITING IF THE PATIENT IS UNCONSCIOUS OR HAS CONVULSIONS.

After inhalation — Remove to fresh air, equipped with a suited respiratory protection. Allow the affected person to rest. Keep warm (blanket). If breathing is difficult, give oxygen (by an authorised person). If not breathing, give artificial respiration. Immediately take to hospital.

After skin contact — Immediately wash with plenty of water during 15 minutes minimum. Remove contaminated clothing and shoes. Seek medical attention immediately.

After eye contact — In case of eye contact, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Remove contact lenses, if possible. Contact ophthalmologist immediately Take to hospital.

After swallowing — DO NOT INDUCE VOMITING because of corrosive effects. If victim completely conscious/alert. Rinse mouth. Never give anything by mouth to an unconscious person. Seek medical attention immediately. Plan immediately a transport towards a hospital center.

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

Symptoms relating to use — Irritations. Red blotches. Burns. Corrosive to the mucous membranes, eyes and the skin.

After Inhalation — Corrosive to respiratory system. May cause irritation of the linings of the mouth, throat, and gastrointestinal tract. Risk of pulmonary oedema. Cough and difficulty in breathing.

Skin contact — Corrosive to skin. Causes severe burns.

Eye contact — Corrosive to eyes. Causes severe burns. Risk of serious permanent damages to eyes if the product is not rapidely removed.

Ingestion — Serious burn of the linings of the mouth, throat, and gastrointestinal tract. Abdominal pain, nausea. Vomiting. Risk of perforation of the gastrointestinal tract accompanied by shock.

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

Treat symptomatically.

SECTION 5 : FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media — Use extinguishing media appropriate for surrounding fire. Water spray. Product resistant foam. Dry chemical powder. Carbon dioxide.

Unsuitable extinguishing media Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Specific hazards Contact with metals produces hydrogen gas which may form explosive mixtures with air. May release heat and harmful fumes.

Hazardous reactions Reacts violently with water.

General measures Not combustible. Non-flammable product. Exercise caution when fighting any chemical fire.

5.3. Advice for firefighters

Firefighting instructions Evacuate the danger area. Only allow access to duly equipped emergency personnel. If possible, stop leaks.

Protection during firefighting Wear protective clothing and self-contained breathing apparatus.

Other information Disperse gas / vapour with sprayed water. Approach the hazard downwind. Cool containers exposed to fire. Collect contaminated extinction water separately and do not allow it to enter pipes or sewers.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment Wear suitable protective clothing, gloves and eye/face protection. Avoid all unnecessary exposure. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapour/spray.

Emergency procedures If the spillage occurs on a public highway, indicate the danger and notify local authorities. Ensure that the area is well ventilated. Evacuate the hazardous area.

6.1.2. For emergency responders

Protective equipment Wear suitable protective clothing, gloves and eye/face protection. Wear a self contained breathing apparatus.

Emergency procedures If the spillage occurs on a public highway, indicate the danger and notify local authorities. Stop the leak. Evacuate the danger zone. Approach the danger downwind. Disperse gases/vapours with sprayed water. Move incompatible materials and products aside

6.2. Environmental precautions

Confine and contain the spillage. Prevent any environmental discharge (sewers, rivers, ground).Immediately notify relevant authorities in case of significant spillage. Pump into an appropriate reserve tank.any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

For containment Confine the product for collection or absorption with appropriate material. Stop leaks, where possible without risk to personnel.

Methods for cleaning up Dike for recovery or absorb with appropriate material. Sand. Earth. Neutralization: Neutralize with lime or sodium carbonate. Do not reject to the sewer or in the course of water. Collection: collect as much of the product as possible by pumping or absorption and place in appropriate labelled containers. Arrange for its destruction in accordance with information in §13. Decant the product in a suitably labelled container resistant to acid. Necessity of a pump resistant to acid. Dilute residues and flush. Small quantities can be diluted in big water (> 100 times) before discharge.

Other information Materials and substances to ban (contact): concentrated acids are very corrosive towards most of the metals. Contact a specialist for the possible destruction/collection of the collected product. Follow local regulations concerning destruction of the product.

6.4. Reference to other sections

Refer to chapter 8 relating to exposure controls and personal protection equipment and chapter 13 relating to disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling Never pour water into the product but product into water. Provide local exhaust or general room ventilation to minimize dust and/or vapour concentrations. Avoid all unnecessary exposure. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapour/spray. Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of the day. Avoid skin and eyes contact. Frequent wash of grounds and equipments. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of

any potential exposure. Personnel must be warned of the dangers of the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Provide watertight, corrosion-resistant electrical installations. Water supply point nearby. Containment basin

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SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Never pour water into the product but product into water. Provide local exhaust or general room ventilation to minimize dust and/or vapour concentrations. Avoid all unnecessary exposure. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapour/spray. Do not eat, drink or smoke when using this product. Wash hands beforebreaks and at the end of the day. Avoid skin and eyes contact.
Frequent wash of grounds and equipments. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Personnel must be warned of the dangers of the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures
Provide watertight, corrosion-resistant electrical installations. Water supply point nearby. Containment basin under tanks. Personnel must be warned of the dangers of the product. Rinse eyes and safety showers must be available near any zone containing risks of exposure.

Storage conditions
Store in dry, cool, well-ventilated area. Store in tightly closed containers.
Keep away from direct sunlight. Do not put in touch with the chlorinated products.

Incompatible products
Incompatible materials: water, acids (neutralization is exothermic).
Bases. Keep away from combustible material. Organic compounds.

Incompatible materials
Metals.

Packaging materials
Advised : specific plastics (PVC - PE), glass, stratified polyester, covered steel. Polypropylene. Stainless steel. Mild steel.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Sulphuric acid (7664-93-9)

France	VLE (mg/m³)	3 mg/m³ (15 minutes)
France	VME (mg/m³)	1 mg/m³ (8 hours)

8.1.1 DNEL (Derived No Effect Level)

Sulphuric acid (7664-93-9)

Worker DNEL: Inhalation - Short-term Exposure	Local effects	0,05 mg/m³
Worker DNEL: Inhalation - Long Term Exposure	Local effects	0,1 mg/m³

8.1.2 PNEC (Previsible None Effect Concentration)

Sulphuric acid (7664-93-9) PNEC freshwater 0,0025 mg/l

8.2. Exposure controls

Appropriate engineering controls
Have occupational exposure of employees assessed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure..

Personal protective equipment
Corrosionproof clothing. Gloves. Safety glasses. Face shield. Insufficient ventilation: wear respiratory protection.

Materials for protective clothing
Example: Rubber. polythene. Compatibility of gloves and clothing with the product must be verified with the supplier.

Hand protection
Wear suitable gloves resistant to chemical penetration.

Eye protection
Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin protection
When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection must be worn.

Respiratory protection
Use combined respiratory protection type. If the ventilation is insufficient, to wear an appropriate

	respiratory system. E. P3.
Thermal hazard protection	In case of thermic decomposition, wear self contained breathing protection apparatus.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Oily liquid.
Molecular weight	98,08 g/mol
Colour	Colourless to light yellow.
Odour	Odourless.
Odour threshold	> 1 mg/m³
pH value	< 1 , 20°C
Melting point	- 34 °C , 51%
Freezing point	No data available
Boiling point	125 °C , 51%
Flash point	No data available
Relative evaporation rate (butylacetate=1)	No data available
Flammability (solid, gas)	No data available
Explosive limits	No data available
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1,4 g/cm³ , 51%
Solubility	Soluble in water. Water: Mixable in all proportions
Log P octanol / water at 20°C	No data available
Self ignition temperature	No data available
Decomposition point	No data available
Viscosity	dynamic: 4,2 mPa.s , 51% (20°C)
Explosive properties	No data available
Oxidising properties	No data available

9.2. Other information

No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity — Reacts violently with water.

10.2. Chemical stability — Stable under normal conditions.

10.3. Possibility of hazardous reactions

Strong exothermic reaction with water. Exothermic reaction with organic materials. Reacts violently with some bases. Reacts with reducers strong. reacts with metals with release of hydrogen flammable gaseous. Reacts with the hypochlorites (release of chlorine).

10.4. Conditions to avoid

Contact with metallic substances. Water (hygroscopic). High temperature. Agents reducer strong.

10.5. Incompatible materials — Reacts violently with : Water. Bases. Metals. Combustible Materials.

10.6. Hazardous decomposition products

Contact with metals produces hydrogen gas which may form explosive mixtures with air. Can decompose at high temperature by releasing the toxic/ flammable vapors. Sulfur oxide.

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity	Not classified
SULFURIC ACID 55% - EN899 (7664-93-9)	
Rat oral LD50	2140 mg/kg
Rat inhalation LC50	510 mg/l/4h
Sulphuric acid (7664-93-9)	
Rat oral LD50	2140 mg/kg
Rat inhalation LC50	510 mg/l/4h
Skin corrosion/irritation	Causes severe skin burns and eye damage. pH value: < 1 , 20°C
Serious eye damage/irritation	Eye damage, category 1, implicit pH value: < 1 , 20°C
Respiratory or skin sensitisation	Not classified
CMR Informations	
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classifiedAspiration hazard
Aspiration hazard :	Not classified

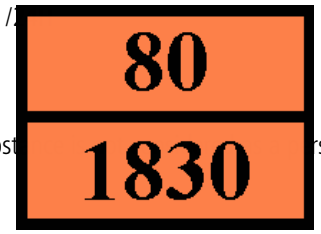
Potential Adverse human health effects and symptoms

:Carcinogenicity: Not thought to be carcinogenic. Mutagenicity: non mutagenic. Evaluation of the toxicity for the reproduction: the tests on animals revealed no indication for changes of the fertility.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Effects on the environment	Hazardous to aquatic organisms. The ris ıent are linked to the acidification of the environment by lowe
Ecology - air	Mobility in the air: the product is non-vc
On water	Fully soluble in water.,May cause a lowering of the pH of the water
Sulphuric acid (7664-93-9)	
LC50-96 hr - fish	42 mg/l Gambusia Affinis
LC50-24 hr - fish	82 mg/l
EC50-24 h - Daphnia Magna	29 mg/l /1



12.2. Persistence and degradability

Sulphuric acid (7664-93-9)

Persistence and degradability: This subst rsistent or bioaccumulative.

12.3. Bioaccumulative potential

Sulphuric acid (7664-93-9)

Bioaccumulative potential: Bioaccumulation Factor is low.

12.4. Mobility in soil

Sulphuric acid (7664-93-9)

- on soil: Create sulphates with the minerals of soil.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

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SECTION 13 : DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Industrial waste number	06 01 01 *: sulfuric acid.
Waste treatment methods	Neutralize before rejection and dilute to large water. The small quantities can be diluted with large amounts of water (>100 times) before discharge. This material should not be landfilled in sewers, rivers. Bring to physico-chemical / biological processing center. Dispose in a safe manner in accordance with local/national regulations.
Sewage disposal recommendations	Do not pour down drains.
Waste disposal recommendations	After last use, the packing should be totally empty and closed. Wash with plenty of water and neutralized before disposal. Re-use is possible after washing and decontamination. When the packing is consigned, it should be brought back by the supplier.
Additional information	The attention of the user is attracted to the possible existence of constraints and local prescriptions, relative to the elimination, concerning the product. The elimination must be made in agreement with the local, regional or national legislation.

SECTION 14 : TRANSPORT INFORMATION

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

UN-No.	1830

14.2. UN proper shipping name

Proper Shipping Name	SULPHURIC ACID
Transport document description	UN 1830 SULPHURIC ACID, 8, II, (E)

14.3. Transport hazard class(es)

Class (UN)	8
Hazard labels (UN)	8

14.4. Packing group

Packing group (UN)	II

14.5. Environmental hazards

Other information	No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Comply with regulations in force relating to transportation (ADR/RID, IATA/ICAO, IMDG). In the event of an accident, refer to the written transportation instructions and chapters 5, 6 and 7 of this Material Safety Data Sheet.

14.6.1 Overland Transport

Hazard idewntification number (Kemier No)	80
Classification Code (UN)	C1

Orange Plates

14.6.2. Transport by sea

No additional information available

14.6.3. Air transport

No additional information available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: REGULATORY INFORMATION

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH (SVHC) candidate substance

European Regulation CE/689/2008 concerning the exports and the imports of dangerous chemicals

No data available