



# MATERIAL SAFETY DATA SHEET

according to the Global Harmonized System

Date of issue: 02/04/2013

Version 1.0

## SECTION 1. Identification

### Product identifier

Product number	100729
Product name	Sulfuric acid 90-91% for Gerber fat determination and determination of nitrates in milk

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

Identified uses	Reagent for analysis
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   SDS Phone Support: +1-978-715-1335   General Inquiries: +1-978-751-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)  e-mail: mm_sds@merckgroup.com
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Emergency telephone	613-996-6666 CANUTEC (Canada) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Skin corrosion, Category 1A, H314

Corrosive to Metals, Category 1, H290

For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Danger

*Hazard Statements*

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

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*Precautionary Statements*

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

**Other hazards**

None known.

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**SECTION 3. Composition/information on ingredients**

**Hazardous ingredients**

*Chemical Name (Concentration)*

CAS-No.

*sulphuric acid ( $\geq 90\%$  -  $\leq 100\%$ )*

7664-93-9

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**SECTION 4. First aid measures**

**Description of first-aid measures**

*General advice*

First aider needs to protect himself.

*Inhalation*

After inhalation: fresh air. Call in physician.

*Skin contact*

After skin contact: wash off with plenty of water. Immediately remove contaminated clothing. If available swab with polyethylene glycol 400. Call a physician immediately.

*Eye contact*

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

*Ingestion*

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation!). Call a physician immediately. Do not attempt to neutralize.

Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

Irritation and corrosion, Cough, Shortness of breath, Nausea, Vomiting, Diarrhea, pain, Risk of blindness!

**Indication of any immediate medical attention and special treatment needed**

No information available.

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**SECTION 5. Fire-fighting measures**

**Extinguishing media**

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*Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

**Special hazards arising from the substance or mixture**

Not combustible.

Ambient fire may liberate hazardous vapors.

Fire may cause evolution of:

Sulfur oxides

**Advice for firefighters**

*Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Cool closed containers exposed to fire with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system. Suppress (knock down) gases/vapors/mists with a water spray jet.

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**SECTION 6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

**Environmental precautions**

Do not empty into drains.

**Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® H<sup>+</sup>, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

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**SECTION 7. Handling and storage**

**Precautions for safe handling**

Observe label precautions.

**Conditions for safe storage, including any incompatibilities**

Tightly closed.

Storage temperature: no restrictions.

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**SECTION 8. Exposure controls/personal protection**

**Exposure limit(s)**

*Ingredients*

Basis	Value	Threshold limits	Remarks
<i>sulphuric acid 7664-93-9</i>			
CAD AB OEL	Time Weighted Average (TWA):	1 mg/m <sup>3</sup>	
	Short Term Exposure Limit (STEL):	3 mg/m <sup>3</sup>	
CAD BC OEL	Time Weighted Average (TWA):	0.2 mg/m <sup>3</sup>	
CAD MB OEL	Time Weighted Average (TWA):	0.2 mg/m <sup>3</sup>	Form of exposure: Thoracic fraction.
CAD ON OEL	Time Weighted Average (TWA):	0.2 mg/m <sup>3</sup>	Form of exposure: Thoracic fraction.
OEL (QUE)	Time Weighted Average (TWA):	1 mg/m <sup>3</sup>	
	Short Term Exposure Limit (STEL):	3 mg/m <sup>3</sup>	

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

**Individual protection measures**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

*Hygiene measures*

Change contaminated clothing and immerse in water. Preventive skin protection Wash hands and face after working with substance.

*Eye/face protection*

Tightly fitting safety goggles

*Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

*Other protective equipment:*

Acid-resistant protective clothing.

*Respiratory protection*

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**SECTION 9. Physical and chemical properties**

Physical state	liquid
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Color	colorless
Odor	odorless
Odor Threshold	not applicable
pH	at 68 °F (20 °C) strongly acid
Melting point	No information available.
Boiling point/boiling range	ca. 572 °F (300 °C)
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Relative density	1.81 g/cm <sup>3</sup> at 68 °F (20 °C)
Water solubility	at 68 °F (20 °C) soluble, (caution ! development of heat)
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	ca.640 °F (338 °C)
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.

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**SECTION 10. Stability and reactivity**

**Reactivity**

has a corrosive effect  
strong oxidizing agent

**Chemical stability**

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The product is chemically stable under standard ambient conditions (room temperature) .

**Possibility of hazardous reactions**

A risk of explosion and/or of toxic gas formation exists with the following substances:

Violent reactions possible with:

Water, Alkali metals, alkali compounds, Ammonia, Aldehydes, acetonitrile, Alkaline earth metals, alkalines, Acids, alkaline earth compounds, Metals, metal alloys, Oxides of phosphorus, phosphorus, hydrides, halogen-halogen compounds, oxyhalogenic compounds, permanganates, nitrates, carbides, combustible substances, organic solvent, acetylidene, Nitriles, organic nitro compounds, anilines, Peroxides, picrates, nitrides, lithium silicide, iron(III) compounds, bromates, chlorates, Amines, perchlorates, hydrogen peroxide

**Conditions to avoid**

Strong heating.

**Incompatible materials**

animal/vegetable tissues, Metals

Contact with metals liberates hydrogen gas.

**Hazardous decomposition products**

in the event of fire: See section 5.

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**SECTION 11. Toxicological information**

**Information on toxicological effects**

*Likely route of exposure*

Eye contact, Skin contact

*Skin irritation*

Mixture causes severe burns.

*Eye irritation*

Mixture causes serious eye damage. Risk of blindness!

*Specific target organ systemic toxicity - single exposure*

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

*Specific target organ systemic toxicity - repeated exposure*

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

*Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

**Carcinogenicity**

IARC	Group 1: Carcinogenic to humans
	sulphuric acid 7664-93-9
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	Known carcinogen.
	sulphuric acid 7664-93-9

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ACGIH	A2: Suspected human carcinogen	
	sulphuric acid	7664-93-9

**Further information**

After inhalation of aerosols: damage to the affected mucous membranes. After skin contact: severe burns with formation of scabs. After eye contact: burns, corneal lesions. After swallowing: severe pain (risk of perforation!), nausea, vomiting and diarrhea. After a latency period of several weeks possibly pyloric stenosis.

Handle in accordance with good industrial hygiene and safety practice.

**Ingredients**

*sulphuric acid*

No information available.

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**SECTION 12. Ecological information**

**Ecotoxicity**

No information available.

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**Mobility in soil**

No information available.

**Other adverse effects**

*Additional ecological information*

Biological effects:

Forms corrosive mixtures with water even if diluted.

Harmful effect due to pH shift.

Endangers drinking-water supplies if allowed to enter soil or water.

Further information on ecology

Discharge into the environment must be avoided.

**Ingredients**

*sulphuric acid*

*Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 29 mg/l; 24 h (IUCLID)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

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**SECTION 13. Disposal considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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**SECTION 14. Transport information**

**Land transport (DOT)**

UN number	UN 1830
Proper shipping name	SULPHURIC ACID
Class	8
Packing group	II
Environmentally hazardous	--

**Air transport (IATA)**

UN number	UN 1830
Proper shipping name	SULPHURIC ACID
Class	8
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

**Sea transport (IMDG)**

UN number	UN 1830
Proper shipping name	SULPHURIC ACID
Class	8
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-B

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**SECTION 15. Regulatory information**

**United States of America**

**Canada**

**WHMIS Classification**

D2A	Very Toxic Material Causing Other Toxic Effects
E	Corrosive Material

Carcinogen, Corrosive to skin, Corrosive to eyes, Corrosive by inhalation.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

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**Notification status**

TSCA: On TSCA Inventory

DSL: All components of this product are on the Canadian DSL.

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**SECTION 16. Other information**

**Training advice**

Provide adequate information, instruction and training for operators.

**Full text of H-Statements referred to under sections 2 and 3.**

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Date of issue: 02/04/2013

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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