

Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **000328**
 Product name: **DS2**
 INDEX number: **016-026-00-0**
 EC number: **226-218-8**
 CAS number: **5329-14-6**
 Registration Number: **01-2119488633-28**

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

Intended use: **Descaler in powder form for dishwashers and washing machines**

Identified Uses	Industrial	Professional	Consumer
Products for washing and cleaning	✓	✓	-
Products for washing and cleaning	-	-	✓
Uses Advised Against			
None known			

1.3. Details of the supplier of the safety data sheet

Name: **FIRMA SRL**
 Full address: **VIA PER MODENA, 28**
 District and Country: **42015 CORREGGIO (RE) IT**
 Tel.: **0522 691880**
 Fax: **0522 631277**

e-mail address of the competent person responsible for the Safety Data Sheet: **SDS@FIRMACHIMICA.IT**

Supplier: **FIRMA SRL**

1.4. Emergency telephone number

For urgent inquiries refer to: **Tel. 0039 0522 691880 Office hours: 08.30 - 12.30, 14.00 - 18.00**
Tel. 0039 0522 036527 other times – laboratorio@firmachimica.it

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



SECTION 2. Hazards identification ... / >>

Signal words: Warning

Hazard statements:

H319 Causes serious eye irritation.
H315 Causes skin irritation.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

P273 Avoid release to the environment.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P302+P352 IN CASE OF CONTACT WITH SKIN: wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice / attention if you feel unwell.

Contains: SULPHAMIC ACID

INDEX 016-026-00-0

2.3. Other hazards

The substance does not have persistence, bioaccumulation and toxicity (PBT) properties and is not very persistent and very bioaccumulative. (vPvB).

The substance does not have endocrine disrupting properties.

SECTION 3. Composition/information on ingredients
3.1. Substances

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
SULPHAMIC ACID		
INDEX 016-026-00-0	99,9 ≤ x < 100	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Aquatic Chronic 3 H412
EC 226-218-8		
CAS 5329-14-6		
REACH Reg. 01-2119488633-28		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures
4.1. Description of first aid measures

EYES: eliminate any contact lenses. Wash immediately and abundantly with water for at least 30/60 minutes, opening the eyelids well. See a doctor immediately.

SKIN: wash immediately with water and rinse. Change clothes if necessary. If irritation persists or tissue damage occurs, seek medical advice. In case of skin irritation consult a doctor.

INGESTION: DO NOT induce vomiting. Seek medical advice immediately. Never give anything by mouth to an unconscious or cramped person.

INHALATION: Call a doctor immediately. Take the person outdoors, away from the accident site. If breathing stops, give artificial respiration. Take adequate precautions for the rescuer.

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

Causes serious eye irritation. Causes skin irritation.

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

Information not available.

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING MEDIA: The extinguishing media are the traditional ones: carbon dioxide, foam and chemical powder. For leaks and spills of the product that have not ignited, the nebulized water can be used to disperse the flammable vapors and to protect the people involved in stopping the loss. **NON-SUITABLE EXTINGUISHING MEDIA:** Do not use water jets. Water is not effective for extinguishing the fire but it can be used to cool closed containers exposed to the flame, preventing bursts and explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS DUE TO EXPOSURE IN THE EVENT OF FIRE: Avoid breathing combustion products: carbon oxides.

5.3. Advice for firefighters

GENERAL INFORMATION: Cool the containers with water jets to avoid decomposition of the product and the development of substances potentially hazardous for health. Wear, if necessary, complete fire protection equipment. Collect extinguishing water that must not be discharged into drains. Dispose of the contaminated water used for the fire extinguisher and the residue according to the regulations in force. **EQUIPMENT:** Not necessary for small fires. If necessary, wear fire-fighting clothing such as a fireproof suit (EN469), fireproof gloves (EN659) and boots for firefighters (HO A29 or A30) depending on the amount of product and any other materials involved in the fire.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Stop the leak if there is no danger. Wear appropriate protective equipment (including personal protective equipment referred to in section 8 of the safety data sheet) to prevent contamination of the skin, eyes and personal clothing. These indications are valid both for workers involved in the work and for emergency interventions.

6.2. Environmental precautions

Prevent the product from entering sewers, surface waters, water tables.

6.3. Methods and material for containment and cleaning up

Vacuum the leaked product into a suitable container. Evaluate the compatibility of the container to be used with the product, checking section 10. Absorb the remainder with inert absorbent material. Ensure adequate ventilation of the area affected by the loss. Disposal of the contaminated material must be carried out in accordance with the provisions of point 13.

6.4. Reference to other sections

Any information regarding personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

See the exposure scenarios attached to this safety datasheet.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

SULPHAMIC ACID

Predicted no-effect concentration - PNEC

Normal value in fresh water	1,8	mg/l
Normal value in marine water	0,18	mg/l
Normal value for fresh water sediment	8,36	mg/kg/d
Normal value for marine water sediment	0,84	mg/kg/d
Normal value of STP microorganisms	20	mg/l
Normal value for the terrestrial compartment	5	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Chronic local	Chronic systemic	Effects on workers			
	Acute local	Acute systemic			Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	5 mg/kg/d				
Inhalation			VND	17,4 mg/m3				70,5 mg/m3
Skin				5 mg/kg bw/d				10 mg/kg bw/d

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

8.2. Exposure controls

Comply with the safety measures usually applied when handling chemical substances.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

When choosing risk management measures and operating conditions, consult the exposure scenarios attached.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (see standard EN 374).

Work glove material must be chosen according to the use process and the products that may form. Latex gloves may cause sensitivity reactions.

SKIN PROTECTION

Wear category III professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

It is advisable to wear airtight protective goggles if splashing is foreseeable (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

Respiratory protection is not normally required. In any case, avoid inhalation of vapors, aerosols and gases. Use self-contained breathing apparatus or masks with filter type "A" during emergency operations. EN 141 gas / vapor filters. A respirator is not required under normal conditions of use and under the conditions for using the product. In case of insufficient ventilation and / or in the case of short or minimal exposure use the mask, wear an appropriate respirator (with filter type "A").

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

For information on controlling environmental exposure, see the exposure scenarios attached to this safety datasheet.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	white powder	
Colour	white	
Odour	odourless	
Melting point / freezing point	205 °C	

SECTION 9. Physical and chemical properties ... / >>

Initial boiling point	not applicable	Reason for missing data:The substance decomposes before boiling
Flammability	not flammable	
Lower explosive limit	not applicable	Reason for missing data:non -explosive mixture
Upper explosive limit	not applicable	Reason for missing data:Not relevant for solids
Flash point	not applicable	Reason for missing data:non -resting substance
Auto-ignition temperature	not applicable	
Decomposition temperature	209 °C	
pH	0,41	Concentration: 10 % Temperature: 25 °C
Kinematic viscosity	not applicable	Reason for missing data:Not relevant for solids
Dynamic viscosity	not applicable	Reason for missing data:Not relevant for solids
Solubility	181.4 g/l	Temperature: 20 °C
Partition coefficient: n-octanol/water	not applicable	Reason for missing data:Not relevant for solids
Vapour pressure	0,8 Pa	Temperature: 20 °C
Density and/or relative density	1 g/cm ³	Temperature: 20 °C
Relative vapour density	not available	
Particle characteristics		
Median equivalent diameter		
Median equivalent diameter	505.28 µm	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Molecular weight g/mol	97,1
Total solids (250°C / 482°F)	100,00 %
Explosive properties	not explosive
Oxidising properties	not oxidizing

SECTION 10. Stability and reactivity

In the absence of data relating to the preparation, the following information refers to the substances that make up the mixture.

10.1. Reactivity

The product reacts violently with strongly alkaline products, developing heat.

Scaldato a decomposizione emette: ossidi di zolfo Scaldato a decomposizione emette: gas di ammonio

10.2. Chemical stability

The product is stable in the recommended storage and use conditions (see paragraph 7).

The product is very stable as a solid anhydrous crystalline, in aqueous solution it is very acidic and slowly hydrolyz at room temperature forming sulphate and bisulfate.

10.3. Possibility of hazardous reactions

In normal use and storage conditions dangerous reactions are not predictable.

SULPHAMIC ACID: risk of explosion on contact with chlorine. Reacts dangerously with metal nitrites and nitrates.

10.4. Conditions to avoid

None in particular. However, follow the usual precautions against chemical products and do not mix with preparations based on hypochlorites and chlorine derivatives in general.

Keep away from heat sources and sparks. Avoid the formation of dust.

10.5. Incompatible materials

SECTION 10. Stability and reactivity ... / >>

Do not store in metal containers: it reacts with zinc, copper and their alloys.

SULPHAMIC ACID: chlorine, nitric acid, sodium nitrites and nitrates, potassium.

10.6. Hazardous decomposition products

By contact with chlorine derivatives toxic gases are released.

SULPHAMIC ACID: sulphur oxides and nitric oxides.

SECTION 11. Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

SULPHAMIC ACID

LD50 (Dermal):

> 2000 mg/kg Ratto

LD50 (Oral):

2065 mg/kg ratto

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

SECTION 11. Toxicological information ... / >>ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

11.2. Information on other hazards

Based on the available data, the substance is not listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

SULPHAMIC ACID	
LC50 - for Fish	70,3 mg/l/96h Pimephales promelas
EC50 - for Crustacea	71,6 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	48 mg/l/72h Desmodesmus subspicatus
Chronic NOEC for Fish	> 60 mg/l 34 giorni - Danio rerio
Chronic NOEC for Crustacea	19 mg/l 21 giorni - Daphnia magna

12.2. Persistence and degradability

SULPHAMIC ACID	
Entirely degradable	N.A. inorganico

12.3. Bioaccumulative potential

Information not available

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

The substance does not have persistence, bioaccumulation and toxicity (PBT) properties and is not very persistent and very bioaccumulative. (vPvB).

12.6. Endocrine disrupting properties

Based on the available data, the substance is not listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations**13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information**14.1. UN number or ID number**

ADR / RID, IMDG, IATA: 2967

SECTION 15. Regulatory information ... / >>

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the substance.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H412	Harmful to aquatic life with long lasting effects.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)

SECTION 16. Other information ... / >>

13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

09 / 11.

Exposure Scenarios

Product	DS2
Scenario Title	ACIDO SULFAMMICO
Revision nr.	1
File	EN_0079_1.pdf