

Coffee machine descaler

Revision n. 01
Revision date: 27/05/2014



SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY /UNDERTAKING*

1.1. Identification of the substance

Code:	[CLD250] 484000008405 - [CLD350] 484000008483 - [CLD016] 484000008732 [4064356] 484000008380 - [4136691] 484000008551
Denomination	Coffee machine descaler
Chemical name and synonyms	

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/preparation : descaler product for coffee machine and iron. Consumer use.
Registration number: N.A. as mixture.

1.3. Information about manufacturer of Safety data sheet

Company name	Synt Chemical S.r.l.
Address	Via Armando Gagliani, 5
City and Country	40069 Zola Predosa (BO) - ITALIA
Telephone	Tel. 051 752332 - Fax 051 754945
e-mail of the safety responsible person	laboratorio@syntchemical.it
responsible of material data sheet	Dr. Silvano Invernizzi

1.4. Emergency telephone number

For urgent safety information call the Anti-Poison Center of your country. Check the emergency list on page 12.

2. HAZARD IDENTIFICATION.*

2.1. Classification of the preparation or mixture.

The mixture is classified as dangerous according to Directive 67/548/EEC and Regulation 1999/45/EC and/or Regulation 1272/2008 (CLP) (and following amendments or revision).
 For this reason the products requires a safety data sheet conform to directive of regulations (CE) 1907/2006 and modifications.
 Further information on human health and/or environmental risk is detailed in section 11 and 12 of this document.

Classification and symbol:

Danger Symbol:

GHS05

Classification:

Eye Dam 1; H318

Skin Irrit. 2; H315

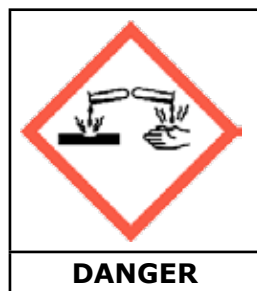
Full test of Risk phrases (H) is detailed in section 16 of this document

SDS121200680UK

2.2. Data on Label.

Danger labeling according to Directive 1272/2008 and following revision and amendments

CLP pictograms



Hazard Statements:

H318 Causes severe damage to eyes.

H315 Causes skin irritation.

Precautionary Statements:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children

P103 Read label before use.

P280 Wear eye protection.

P302 + P352 IF ON SKIN: Wash with plenty of soap and 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.

P310 Immediately call a POISON CENTER or doctor/physician.

Contains: LACTIC ACID.

2.3. Other hazards.

None

3. COMPOSITION/INFORMATION ON INGREDIENTS.*

3.1. Substances

Not applicable.

3.2. Mixture.

Contains

Substance Name	CAS	EC	INDEX	REACH	Conc. %.	Classification 67/548/CEE.	Classification 1272/2008 (CLP).
CITRIC ACID	77-92-9	201-069-1	NA	01-2119457026-42-xxxx	3 -6%	Xi R36	Eye Irrit. 2 H319
L-(+)-Lactic Acid	79-33-4	201-196-2	NA	01-2119474164-39-0000	10 - 15 %	Xi;R38-41	Skin Irrit. 2 H315. Eye dam. 1; H318

T+ = Very toxic(T+), T = Toxic (T), Xn = Harmful(Xn), C = Corrosive (C), Xi = Irritant(Xi), O = Oxidising (o), E = Explosive(E), F+ = Extremely Flammable (F+), F = Easily Flammable (F)

*SUBSTANCES ARE LISTED BECAUSE PRESENT EXPOSURE LIMITS (REFER TO SECTION 8)

Full test of R-pharse and H phrase is detailed in section 16 of this document

COMPONENTS CONFORM TO REGULATION CE N.648/2004

BETWEEN 5% AND 15% L-(+)-LACTIC ACID. LESS 5%: CITRIC ACID

4. FIRST AID MEASURES.*

Take off immediately all contaminated clothing. If unconsciousness may be possible move away to fresh air, give oxygen or artificial respiration if needed. Personal protective equipment for first aid responders is recommended. Assure that emergency showers and eyes washing are next to area.

4.1. First aid instructions.

EYES: Wash immediately, thoroughly with plenty of water for at least 15 minutes holding the eyelids apart. After protect eyes with sterile and dry gauze or cotton. Consult an ophthalmologist. Make sure to remove any contact lenses from the eyes before rinsing. Obtain medical attention.

SKIN: Wash off immediately with plenty of water. Take off immediately all contaminated clothing. Seek immediately medical advice. Wash contaminated clothing before using.

INHALATION: Take the affected person away from contaminated area to fresh air. If respiration is difficult, seek immediately medical advice. Keep victim in the lateral safety position. Remove tight clothes as ties, shirt collars, belts or bands.

INGESTION: Seek immediately medical advice. Do not induce vomiting. Do not give anything to the person if unconscious and without medical authorization

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

For symptoms and effects due to contained substances refer to section 11.

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

If incident occur, seek medical advice immediately and following instructions. If possible show Safety information.

5. FIREFIGHTING MEASURES.*

5.1. Extinguishing media

SUITABLE EXTINGUISHING MEDIA:

Are the traditional ones: CO₂, alcohol resistant foam, powder and water sprayed.

For spilling of not fired product use water to dispel flammable vapors and protect rescue team.

UNSUITABLE EXTINGUISHING MEDIA:

None particular

5.2. Special hazards arising from the substance or mixture

Avoid inhalation of gas spread from explosion or fires. In case of fire can release carbon oxide toxic products of pyrolysis, etc.

5.3. Advice for fire-fighter.

GENERAL INFORMATION

Cool container with water from a protect place to avoid decomposition and release of substances potentially harmful for health. Act always in security. Wear always the complete protective fire-fighting equipment. Contain the water used to extinguish the fire and avoid they can reach the sewers. Dispose the contaminated water in accordance with local and national regulations

PROTECTIVE EQUIPMENT

Protective helmet with shield visor, fireproof clothes (jacket and trousers with bands around arms, legs and sides), security gloves (fire resistant, cut resistant and dielectric), overpressure mask with full face-piece or with a compressed air breathing apparatus in case of large quantity of fumes.

6. ACCIDENTAL RELEASE MEASURES.*

6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation spraying water on the product if necessary. Wear appropriate breathing apparatus if air is contaminated

6.2. Environmental precautions.

Avoid release into sewerage, surface water, groundwater. Advise immediately authorities in case of loss or spilling.

6.3. Methods and material for containment and cleaning up.

Soak up with inert absorbent material. Contain and collect the product and place in a container for disposal. Clean spill area thoroughly with water. Well ventilated the area. Disposal of contaminated materials according to section 13.

6.4. Reference to other sections.

Information regarding personal protective equipment and its disposal (if needed) is given in sections 8 and 13.

7. HANDLING AND STORAGE.*

7.1. Precautions for safe handling.

Avoid the formation of powders and provide adequate ventilation. Avoid contact with skin and eyes. Avoid inhalation and swallowing

7.2. Conditions for safe storage, including any incompatibilities.

Store in a cool, well-ventilated area. away from direct sunlight. Stock the packaging well closed and labelled. Store far from incompatible substances.

7.3. Specific end use.

Descaler product for coffee machine and iron. Consumer use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION.*

8.1. Control parameters.

Description	Parameters	Country	VL/8h mg/m3	ppm	VL short term mg/m3	ppm	Note
CITRIC ACID (CAS 77-92-9)	WEL	EU	4	-	10	-	-

WEL = Workplace Exposure Limit.

CITRIC ACID (CAS 77-92-9)

Data available for substance, from some suppliers.

PNEC: Water Value: 440 mg/l

PNEC: Sediment of fresh water Value: 34,6 mg/kg

PNEC: Sediment marine Value: 3,46 mg/kg

PNEC: Soil Value: 33,1 mg/kg.

8.2. Exposure controls

As the use of appropriate technical measures should always take priority over personal protective equipment, ensure good ventilation in the workplace through effective local exhaust ventilation or by removing stale air. If you exceed the threshold value or one or more of the substances in the preparation due to daily exposure in the work environment or a fraction determined by the corporate prevention and security service, wear an appropriate breathing mask. Refer to the product label for further details. Request further information to chemicals supplier about proper protective equipment. Protective equipment must fulfill Legislation requirement. Organise the installation of showers and emergency eyes shower near the working place.



HANDS PROTECTION

Protect your hands with work gloves, category I (Directive 89/686/EEC and EN 374) such as PVC, PVA, neoprene, nitrile, PTFE viton latex, or equivalent. For the definitive selection of the material used for the work gloves, the following factors should be considered: degradation, breakage time and permeation. In the case of preparations, glove resistance should be tested before use because it is not foreseeable. The gloves have a durability that depends on the duration of exposure



EYES PROTECTION

Wear protective goggles (see standard EN 166)

SKIN PROTECTION

Use protective working wear with long and safe shoes for professional use of category II (see directive 89/686/CEE and EN 344). Wash with water and soap after removal of protective clothes.



RESPIRATORY PROTECTION

If you exceed the threshold value of one or more of the substances in the preparation due to daily exposure in the work environment or a fraction determined by the corporate prevention and security service, wear filter half face mask type FFP3 or universal type which class (1,2 or 3) should be chosen according to the limit concentration of use (refer to Standard EN 141). The use of respiratory protective equipment such as masks fitted with an organic vapours filter and dust/mist, is necessary in the absence of technical measures to limit worker exposure. Nonetheless, the masks provide limited protection.

In the case where the substance in question is odourless or its olfactory threshold is higher than the relative exposure limit and in case of emergency, or when exposure levels are unknown or the concentration of oxygen in the workplace is less than 17% in volume, where an open circuit compressed-air self-respirator (Standard EN 137) or an external air-uptake respirator to be used with full face mask, half face mask or mouthpiece (ref. Standard EN 138).

9. PHYSICAL AND CHEMICAL PROPERTIES.*

9.1. Information on basic physical and chemical properties.

Appearance	Liquid
Colour	Colourless
Odour	Characteristic
pH sol. 10% in water	<2,5
Melting point/freezing point	NA (not available)
Melting point	Not relevant
Evaporation rate	NA (not available)
Flammability point	over 80°C
Self flammability	NA (not available)
Explosive limits	Not explosive
Decomposition temperature	NA (not available)
Relative density at 20°C	1042 g/L
Solubility in water	soluble
Liposolubility	NA (not available)
Partition coefficient: n-octanol/water	NA (not available)
Vapour pressure	NA (not available)
Vapours density	NA (not available)
Oxydizing property	Not oxidizer
ND = not determined on mixture	

9.2. Other information.

None

10. STABILITY AND REACTIVITY.*

10.1. Reactivity.

In normal condition of storage and use there are no particular reactions with other substance

10.2. Chemical stability

Product is stable in normal condition and storage.

10.3. Possibility of hazardous reactions.

In normal condition of use and storage are not expected dangerous reactions. Avoid contact with incompatibles substances.

10.4. Conditions to avoid.

Use normal actions for chemical products. Avoid overheating, electrostatic charges and any source of ignition.
L-(+)-Lactic Acid (79-33-4)
Temperatures over 200°C

1.5. Incompatible materials.

Nitrous metals, zinc, copper, aluminium, bases, chloride, nitrates metallic titrates + heat, fuming nitric acid, strong alkali, strong acids and some metals.

10.6. Hazardous decomposition products.

In case of fire or decomposition may spread gas and vapors potentially harmful for health as CO₂, carbon mono-oxide, phosphorous and nitrogen oxide, irritating fumes and other compounds potentially toxic to health.

11. TOXICOLOGICAL INFORMATION.*

11.1. Information on toxicological effects.

The product causes severe damages to eyes and might shadow cornea, iris and not reversible color change. The inhalation of big quantity may cause irritation to breathing. Ingestion of big quantity may cause intestinal disorders. Contact with skin may cause strong irritation of the contact points.

L-(+)-Lactic Acid (79-33-4)

Acute inhalation CL50 rat: 7,94 mg/l 4 hours

Acute Oral DL50 mouse: 4875 mg/kg

Acute Oral DL50 rat: 3730 mg/kg

Skin irritation

It causes skin irritation.

Severe damage to eyes / eyes irritation

It causes severe damage to eyes.

CITRIC ACID

LD50 (Oral): 3000 mg/kg (rat)

Toxic dose 1 – LD50 11700 mg/kg (oral rat)

More informations: Ames test negative. Irritation obtained on test on animals.

Informations available on substance, from some suppliers.

Inhalation of important quantities should cause irritation to respiratory system. Swallowing of important quantities should cause gastrointestinal disorders.

Contact with skin can cause irritation. Prolonged and repeated exposure can cause allergic reactions on some sensitive persons.

*Acute Toxicity

Acute Oral Toxicity for Anhydrous Citric Acid:

LD50 Oral: 5.400 mg/kg

Species: mouse

Method: OECD TG 401

LD50 Oral: 11.700 mg/kg

Species: rat

Method: OECD TG 401

Dermal Acute Toxicity Anhydrous Citric Acid:

LD50 Dermal: > 2.000 mg/kg

Species: rat

Acute Toxicity (for other submistration ways) Anhydrous Citric Acid:

DL50: 725 mg/kg

Application Way: i.p.

Species: rat

DL50: 940 mg/kg

Application Way: i.p.

Species: mouse

*Corrosion/irritation skin

Irritant to skin Anhydrous Citric Acid:

Species: rabbit

Result: No irritation on skin.

Can cause skin irritation on predisposed persons.

*Severe eyes damage/severe eyes irritation

Irritant to eyes Anhydrous Citric Acid

12. ECOLOGICAL INFORMATION.*

Use according good working practice; avoid spreading the product into environment

Advise immediately authorities in case of lose or spilling.

12.1. Toxicity.

L-(+)-Lactic Acid (79-33-4)

CL50 Fish: 320 mg/l 48 hours

EC50 Algae: 3500 mg/l

EC50 Daphnia: 240 mg/l 48 hours

CITRIC ACID (CAS 77-92-9)

LC50 (48 hours): 440 mg/L (*Leuciscus idus melanotus*)

Toxicity to fishes:

No negative effects appeared from acute toxicity tests.

Toxicity to fishes Anhydrous Citric Acid:

CL50: 440 mg/l

Exposure time: 48 h

Species: *Leuciscus idus*

Static test method: OECD TG 203

*Toxicity to Daphnia and other aquatic invertebrates:

No negative effects obtained from acute toxicity tests.

Toxicity to daphnia and other aquatic invertebrates Anhydrous Citric Acid: CL50: 1.535 mg/l

Exposure time: 24 h

Species: *Daphnia magna* (Water flea)

Static test

*Toxicity to algae:

No negative effects obtained from acute toxicity tests

Toxicity to algae Anhydrous Citric Acid:

425 mg/l

Exposure time: 168 hours.

Species: *Scenedesmus quadricauda* (Chlorophyceae algae)

Static test

*Toxicity to bacteria:

The substance is not considered to be inhibitor to marine bacteria (OECD 306).

Toxicity to bacteria Anhydrous Citric Acid:

> 10.000 mg/l

Exposure time: 16 hours

Species: *Pseudomonas putida*.

12.2 Persistence and degradability

No data available for mixture.

L-(+)-Lactic Acid (79-33-4): the product is easily biodegradable.

CITRIC ACID (CAS 77-92-9)

Biodegradability for Anhydrous Citric Acid: 97%.

Test duration : 28 days Method : OECD TG 301B Rapidly biodegradable 100%

Test duration : 19 days Method : OECD TG 301E Rapidly biodegradable

12.3. Bio accumulative potential.

No data available for mixture.

CITRIC ACID (CAS 77-92-9)

Bioaccumulation Anhydrous Citric Acid :

This product is soluble in water and rapidly biodegradable in water and in soil.

Phenomenon of accumulation are unlikely.

12.4. Mobility in soil.

No data available for mixture.

CITRIC ACID (CAS 77-92-9)

Considered not applicable from supplier

12.5. Results of PBT and vPvB assessment.

No data available for mixture.

CITRIC ACID (CAS 77-92-9)

The substance is not considered persistent, bioaccumulative and toxic (PBT), or vPvB.

12.6. Other adverse effects.

No data available for mixture.

CITRIC ACID (CAS 77-92-9)

Biochemical oxygen demand (BOD) Anhydrous Citric Acid : 526 mg/g

Chemical oxygen demand (COD) Anhydrous Citric Acid : 728 mg/g

13. DISPOSAL CONSIDERATIONS.*

13.1. Waste treatment methods

Recycle, if possible. Act in accordance with local and national regulations. Refer to current national legislation. Do not release into sewerage. Do not pollute watercourses. Residues have to be considered as dangerous waste

CONTAMINATED PACKAGING

Indications: empty containers shall not be released to the environment.

Remarks: user has to ensure that no other regional or national rules are in force

14. TRANSPORT INFORMATION

Product not classified dangerous for transport

Road and Railway Transport:

Shipping transport:

Air transport:

15. REGULATORY INFORMATION.*

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

This document has been written following scheme and rules of below Directive and Regulation

It is underlined that this mixture is for food application, hence it is out of the scope of the below Legislation.

1. Directive 1999/45/EC and following amendments;
2. Directive 67/548/EEC and following amendments;
3. Regulation (EC) 1907/2006 of European Parliament (REACH)
4. Regulation (EC) 1272/2008 of European Parliament (CLP)
5. Regulation (EC) 453/2010 of European Parliament

When applicable, refer to following directive: D.Lgs. 21 September 2005 n. 238 (Directive Seveso Ter)

Seveso class. None

Restriction related to the mixture or contained substance, according to Annex XVII, Regulation EC 1907/2006. Point 3

Substance in Candidate List (Art. 59 REACH). None

Substance identified for Authorization (Annex XIV REACH). None

Sanitary controls.

Workers exposed to this chemical agent must be monitored for health issues according to Legislation.

15.2. Chemical safety assessment.

Not available

16. OTHER INFORMATION.*

Full Danger and H-phrase indicated in section 2-3 of this document

Eye Dam. 1 severe damage to eyes, category 1
Eye Irrit. 2 Eye irritation, category 2
Skin. Irrit. 2 Skin irritation, category 2
H315 Causes skin irritation.
H318 Causes severe damage to eyes
H319 Causes serious eye irritation

Full Danger and R-phrase indicated in section 2-3 of this document

R36/38 Irritating to eyes and skin.
R41 Risk of serious damage to eyes.

LITERATURE:

1. The Merck Index. Ed. 10
2. Handling Chemical Safety
3. Niosh - Registry of Toxic Effects of Chemical Substances
4. INRS - Fiche Toxicologique
5. Patty - Industrial Hygiene and Toxicology
6. N.I. Sax - Dangerous properties of Industrial Materials-7 Ed., 1989
- 7. List of abbreviations :**
8. ACGIH : American Conference of Governmental Industrial Hygienists
9. CSR : Report of Chemical Security
10. DNEL: Derived No-Effect Level.
11. DMEL: Derived Minimal Effect Levels
12. EC50: Effective concentration, 50%.
13. EL50 : Effective Loading, 50%.
14. EPA: Environmental Protection Agency
15. IC50: Inhibitory Concentration, 50%
16. LC50: Lethal Concentration, 50%.
17. LD50: Lethal Dose, 50%.
18. LL50: Lethal Loading, 50%
19. LL0: Lethal Loading, 0%
20. LOAEL: Low Observed Adverse Effects Level.
21. LOAEC: Low Observed Adverse Effects Concentration.
22. NOEC: No Observed Effects Concentration.
23. NOEL: No Observed Effects Level. .
24. NOAEL: No Observed Adverse Effects Level. .
25. NOELR: No Observed Effect Loading Rate.
26. OECD: The Organisation for Economic Co-operation and Development
27. TLV-TWA : Threshold Limit Value - Time Weight Average

- 28. N/A: Not applicable
- 29. PBT: Persistent, bioaccumulative and toxic.
- 30. SNC: Central Nervous System
- 31. STOT: Specific Target Organ Toxicity
- 32. (STOT) RE: Specific target organ toxicity – repeated exposure
- 33. (STOT) SE: Specific target organ toxicity – single exposure
- 34. PNEC: Predicted No-Effect Concentration.
- 35. TLV-STEL: threshold limit value - Short-term exposure limit
- 36. UVCB: Substances of Unknown or Variable composition, Complex reaction products or Biological
- 37. materials.
- 38. vPvB: Very Persistent and very Bioaccumulative.
- 39. WAF = Water Accomodated Fraction

Note for the user:

The information on this sheet is based on information that was available at our premises as of the date of the last version.

The user must make sure such information is complete in relation to the specific use being made of the product.

Said document must not be interpreted as a guarantee of any specific property of the product. Since the use of the product is not under our direct control, it is the responsibility of the user to observe the law and other provisions in force on matters of health and safety. We shall not be held liable for any improper uses.

Coffee machine descaler



INGREDIENTS SHEET

COMPONENT IUPAC	INCI NAME	CAS	Pharmacopea name	EINECS	%
Water	AQUA	7732-18-5	aqua	231-791-2	>10
2-hydroxypropanoic acid	-	79-33-4	-	201-196-2	>10
2-Hydroxy-1,2,3-propanetricarboxylic acid	CITRIC ACID	77-92-9	Acidum citricum	201-069-1	1 -10

Emergency telephone numbers

For urgent safety information call the Anti-Poison Center of your country:

	COUNTRY	CUSTOMER SERVICE NR.	ANTI-POISON CENTER NR.
	AUSTRIA	(0043) 050 6700 200	(0043) 01 406 43 43
	BELGIUM	0032 (0)2 263 33 33	(0032) 070 245 245
	CZECK REP.	(00420) 840 111 313	(00420) 224 91 54 02
	DENEMARK	(0045) 44880280	(0045) 82121212
	FINLAND	(09) 61336 235	(09) 471977
	FRANCE	(0033) 0892 700 150	(0033) 01 40 05 48 48
	GERMAN	(0049) 0711 93533655	(0049) 0761 19240
	GREECE	(0030) 2109946400	(0030) 2107793777
	HOLLAND	0031 (0)76 530 6400	(0031) 030 274 8888
	HUNGARY	(0036) 06 40 109 109	(0036) 80 20 11 99
	IRELAND	(00353) 0844 815 8989	(00353) 1 8092566
	ITALY	(0039) 199 580 480	(0039) 02 66101029
	NORWAY	(0047) 22782500	(0047) 22 59 13 00
	POLAND	(0048) 801 900 666	Warszawa: (0048) 22 619 66 54 Gdańsk: (0048) 58 682 04 04 Poznań: (0048) 61 847 69 46 Kraków: (0048) 12 411 99 99
	PORTUGAL	(00351) 707 203 204	(00351) 808 250143
	ROMANIAN	(0040) 0372 117 745	
	RUSSIA	007 (495)745 57 31	
	SLOVAKIA	(00421) 0850 003 007	(00421) 2 54774166
	SPAIN	(0034) 902 203 204	(0034) 915 620 420
	SWEDEN	(0046) 0771 751570	(0046) 08 331231
	SWISS	(0041) 0848 801 005	(0041) 145
	UK	(0044) 0844 815 8989	(0044) 0845 46 47 (0044) 020 7188 0600
	UCRAIN	(00380) 0 800 501 150	