

Descaler for Kettles



Revision n. 03
Revision date: 14/06/2014

SAFETY DATA SHEET

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

1.1. Identification of the substance

| | |
|----------------------------|---|
| Code: | [WKD004] 484000008377 - 484010678165 [TEM200 - 4260937] 484000008968 |
| Denomination | Descaler for Kettles |
| Chemical name and synonyms | |

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/preparation : coffee machine detergent.
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 10.

2. HAZARD IDENTIFICATION.*

2.1. Classification of the preparation or mixture.

The mixture is classified as dangerous according to 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:

Eye Irrit. 2 – H319

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

2.2. Data on Label.

Danger labeling according to Regulation 1272/2008 (CLP) and following amendments or revision.

CLP pictograms:



WARNING

Hazard Statements (H-Phrases):

H319 Causes serious eye irritation.

Precautionary Statements (P-Phrases):

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.

P264 Wash hands and exposed skin thoroughly after handling.

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

P337+P313 If eye irritation persists: Get medical advice/attention.

Contains: CITRIC ACID

N. CE: 201-069-1

COMPONENTS CONFORM TO REGULATION CE N.648/2004

Citric acid over 30%

2.3. Other hazards.

None

3. COMPOSITION/INFORMATION ON INGREDIENTS.*

3.1. Substances

Not applicable.

3.2. Mixture.

Contains

| Identification | Conc. %. | Classification according to 67/548/CEE. | Classification according to 1272/2008 (CLP). |
|--|----------|---|--|
| <i>Citric Acid</i> CAS. 77-92-9 CE.- 201-069-1 INDEX. – N° Registr. 01-2119457026-42 | 90-98% | Xi R36 | Eye Irrit. 2 H319 |

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)

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

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. After protect eyes with sterile and dry gauze or cotton. Remove contact lenses if possible. Consult an ophthalmologist.

SKIN: Wash off immediately with plenty of water. Take off immediately all contaminated clothing. If irritation persist, seek medical advice. Wash contaminated clothing before using.

INHALATION: Take the affected person away from contaminated area to fresh air. Symptoms may include immobility or unconsciousness. Move to fresh air and keep warm and rest. First aid responder have to wear self-contained breathing apparatus. Artificial respiration only if breath is ceased. Seek immediately medical advice.

INGESTION: Seek immediately medical advice. Induce vomiting only on medical supervision. 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 related symptom due to contained substance please 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

UNSUITABLE EXTINGUISHING MEDIA:

None particular

5.2. Special hazards arising from the substance or mixture

Avoid inhalation of gas spread from explosion or fires. They can contain carbon monoxide and other toxic products

5.3. Advice for fire-fighter.

GENERAL INFORMATION

Delimit area and flush water from protected site. Cool other container, or product from a well-protected position to avoid heating and overheating.

If a leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapour and to protect personnel attempting to stop a leak

PROTECTIVE EQUIPMENT

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

6. ACCIDENTAL RELEASE MEASURES.

6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Do not breathe dust. Isolate and evacuate the area. Provide proper ventilation. Wear appropriate breathing apparatus if air is contaminated.

6.2. Environmental precautions.

Avoid release into sewerage, surface water, groundwater.

6.3. Methods and material for containment and cleaning up.

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.

Prevent the dispersion of the powder and operate in well-ventilated area. Avoid contact with skin and eyes. Avoid swallowing and inhalation.

7.2. Conditions for safe storage, including any incompatibilities.

Store in a cool, well-ventilated area. Keep containers well closed and labelled. Store far from incompatible substances.

7.3. Specific end use.

Coffee machine descaler

8. EXPOSURE CONTROLS/PERSONAL PROTECTION.*

8.1. Control parameters

| Description | Parameters | Country | TWA/8h mg/m ³ | ppm | STEL/15min mg/m ³ | ppm | Note |
|-----------------------|------------|---------|-----------------------------|-----|---------------------------------|-----|------|
| anhydrous citric acid | WEL | | 4 | | 10 | | |

PNEC

Fresh water 0.44 mg/l

Marine water 0.044 mg/l

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 fulfil Legislation requirement.



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

Face shields. (see standard EN 166) or complete mask EN 402.

SKIN PROTECTION

Use protective working wear with long and safe shoes for professional use of category I (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 for gas/vapours of organic compounds, type EN 14387 type A. 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 | Crystal powder |
| Colour | White |
| Odour | Odourless |
| pH (diluted solution) | 1,85 |
| Melting point/freezing point | ND (not available) |
| Melting point | 153°C |
| Evaporation rate | ND (not available) |
| Flammability (solid, gas); | not flammable |
| Self flammability | 354 °C |
| explosive limits | Not explosive |
| Decomposition temperature | ND (not available) |
| Relative density at 20°C | 1.665 g/mL |
| Apparent density | 400-1300 kg/m ³ |
| Solubility in water | Hydrosolubility 60g/100ml |
| Solubility in other liquids | Ethanol |
| Liposolubility | ND (not available) |
| Partition coefficient: n-octanol/water | -1.72 |
| Vapour pressure | ND (not available) |
| Vapours density | ND (not available) |
| Oxydizing property | ND (not available) |

ND = not determined on mixture

9.2. Other information.

None

10. STABILITY AND REACTIVITY.

10.1. Reactivity.

No particular danger reactions with other substances in normal condition of use.

10.2. Chemical stability

Product is stable in normal condition and storage.

10.3. Possibility of hazardous reactions.

No hazardous reactions for normal storage and use.

10.4. Conditions to avoid.

None particular. Use normal actions for chemical products. Avoid exposure to heat, naked flames, heat sources. Avoid powders formation. Avoid contact with incompatible substances.

10.5. Incompatible materials.

Metal nitrous compounds, zinc, bases.

10.6. Hazardous decomposition products.

In case of fire or decomposition may spread gas and vapors potentially harmful for health.

11. TOXICOLOGICAL INFORMATION.*

11.1. Information on toxicological effects.

Contact with eyes causes severe damages to eyes and may cause corneal opacity, iris damage, irreversible pigment lost.

Inhalation of big quantity may cause irritation of respiratory system.

Swallowing of big quantity may cause gastro-intestinal disorders.

Contact with skin may cause irritation.

Prolonged and repeated exposures may cause allergic reactions in sensible persons.

Mutagenicity: no data available

Carcinogenicity: no compounds known or expected from IARC

Reproductive toxicity: no data available

Acid citric: LD50 (oral): 3000 mg/kg rat.

12. ECOLOGICAL INFORMATION.*

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

Advise immediately authorities in case of lose or spilling.

CITRIC ACID (CAS 77-92-9)

In this section are listed the informations about substance, from some suppliers.

12.1. Toxicity.

Toxicity fishes: CL50 (48 h) 440 mg/L, *Leuciscus idus melanotus*.

*Toxicity for fishes:

No negative effects appeared from test of acute toxicity

Toxicity for fishes Citric Acid anhydrous:

CL50: 440 mg/l

Exposure time: 48 h

Species: *Leuciscus idus* (gold *Leuciscus*)

Static test Method: OECD TG 203

*Toxicity for daphnia and for other aquatic invertebrates:

No negative effects derivate from acute toxicity test.

Toxicity for daphnia and for other aquatic invertebrates Citric Acid anhydrous:

CL50: 1.535 mg/l

Exposure time: 24 hours

Species: *Daphnia magna* (water fleas)

Static test

*Toxicity for algae:

No negative effects derivate from acute toxicity test.

Toxicity for algae Citric Acid anhydrous:

425 mg/l

Exposure time: 168 hours

Species: *Scenedesmus quadricauda* (Chlorophyceae algae)

Static test

*Toxicity for bacteria:

The substance is not considered inhibitory for marine bacteria (OECD 306).

Toxicity for bacteria Citric Acid anhydrous:

> 10.000 mg/l

Exposure time: 16 hours

Species: *Pseudomonas putida*.

12.2 Persistence and degradability

The product is fast biodegradable

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

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

Biodegradability Citric Acid anhydrous: 97 %

Test duration: 28 days

Method: OECD TG 301B
Fast biodegradable 100 %
Test duration: 19 days
Method: OECD TG 301E

12.3. Bio accumulative potential.

The products do not contains any substance bioaccumulable. Repartition coefficient – 1.72

12.4. Mobility in soil.

The product is soluble in water.

12.5. Results of PBT and vPvB assessment.

This product does not contain substances classified persistent, bioaccumulable or toxic (PBT), or vPvB.

12.6. Other adverse effects.

No data available

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.

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 e and following amendments;
3. Regulation (EC) 1907/2006 of European Parliament (REACH)
4. Regulation (EC) 1272/2008 of European Parliament (CLP)
5. Regulation (EC) 790/2009 of European Parliament (I Atp. CLP)
6. 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. None

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

Substance edified for Authorization (Annex XIV REACH). None

Sanitary controls.

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

15.2. Chemical safety assessment.

Not available on mixture

16. OTHER INFORMATION.*

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

Eye Irrit. 2 Eye irritation cat. 2

H319 Causes serious eye irritation.

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

R36 Irritating 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

List of abbreviations :

ACGIH : American Conference of Governmental Industrial Hygienists

CSR : Report of Chemical Security

DNEL: Derived No-Effect Level.

DMEL: Derived Minimal Effect Levels

EC50: Effective concentration, 50%.

EL50 : Effective Loading, 50%.

EPA: Environmental Protection Agency

IC50: Inhibitory Concentration, 50%

LC50: Lethal Concentration, 50%.

LD50: Lethal Dose, 50%.

LL50: Lethal Loading, 50%

LL0: Lethal Loading, 0%

LOAEL: Low Observed Adverse Effects Level.

LOAEC: Low Observed Adverse Effects Concentration.

NOEC: No Observed Effects Concentration.

NOEL: No Observed Effects Level. .

NOAEL: No Observed Adverse Effects Level. .

NOELR: No Observed Effect Loading Rate.

OECD: The Organisation for Economic Co-operation and Development

TLV-TWA : Threshold Limit Value - Time Weight Average

N/A: Not applicable

PBT: Persistent, bioaccumulative and toxic.

SNC: Central Nervous System

STOT: Specific Target Organ Toxicity

(STOT) RE: Specific target organ toxicity – repeated exposure

(STOT) SE: Specific target organ toxicity – single exposure

PNEC: Predicted No-Effect Concentration.

TLV-STEL: threshold limit value - Short-term exposure limit

UVCB: Substances of Unknown or Variable composition, Complex reaction products or Biological materials.

vPvB: Very Persistent and very Bioaccumulative.

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.

Descaler for Kettles



INGREDIENTS SHEET - DESCALER

| COMPONENT IUPAC | INCI NAME | CAS | Pharmacopea name | EINECS | % |
|--|-------------|-------------|------------------|-----------|------|
| 2-Hydroxy-1,2,3-propane-tricarboxylic acid | CITRIC ACID | 77-92-9 | Acidum citricum | 201-069-1 | ≥ 10 |
| Silicon dioxide | SILICA | 112945-52-5 | | 231-545-4 | 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 | |