

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 4.0 Revision Date 26.02.2010

Print Date 30.06.2010

GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

Product name : Caffeine

Product Number : C0750

Brand : Sigma-Aldrich

Company : Sigma-Aldrich (Shanghai) Trading Co.,Ltd
22A-B Century Ba-Shi Building,
398 Huai Hai Zhong Road
200020 SHANGHAI
CHINA

Telephone : +862161415566

Fax : +862161415567

Emergency Phone # : +8615921213336

E-mail address : china@sial.com

2. HAZARDS IDENTIFICATION**Classification of the substance or mixture**

According to Regulation (EC) No1272/2008
Acute toxicity (Category 4)

According to European Directive 67/548/EEC as amended.
Harmful if swallowed.

Label elements

Pictogram



Signal word : Warning

Hazard statement(s)
H302 : Harmful if swallowed.

Precautionary statement(s) : none

Hazard symbol(s)
Xn : Harmful

R-phrase(s)
R22 : Harmful if swallowed.

S-phrase(s) : none

Other hazards - none**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : 1,3,7-Trimethylxanthine

Formula : C₈H₁₀N₄O₂

Molecular Weight : 194,19 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration
---------	--------	-----------	----------------	---------------

Caffeine				
58-08-2	200-362-1	613-086-00-5	Acute Tox. 4; H302 Xn, R22	-

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

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Handle with gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	powder
Colour	white

Safety data

pH	5,5 - 6,5 at 10 g/l at 20 °C
Melting point	234 - 236,5 °C
Boiling point	no data available
Flash point	no data available
Ignition temperature	540 °C -
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	20 hPa at 89 °C
Density	1,230 g/cm ³
Water solubility	slightly soluble
Partition coefficient: n-octanol/water	log Pow: -0,07

10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Conditions to avoid

no data available

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO_x)

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

LD50 Oral - rat - 192 mg/kg

Remarks: Brain and Coverings:Other degenerative changes. Kidney, Ureter, Bladder:Interstitial nephritis.

Inhalation: Irritating to respiratory system.

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

Laboratory experiments have shown mutagenic effects.

Genotoxicity in vitro - rat - Kidney
Micronucleus test

Genotoxicity in vivo - mouse - Oral
Micronucleus test

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Caffeine)

Reproductive toxicity

no data available

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: EV6475000

12. ECOLOGICAL INFORMATION**Toxicity**

Toxicity to fish	LC50 - Leuciscus idus (Golden orfe) - 87 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 182 mg/l - 48 h

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID

UN-Number: 1544 Class: 6.1 Packing group: II
Proper shipping name: ALKALOID SALTS, SOLID, N.O.S. (Caffeine)

IMDG

UN-Number: 1544 Class: 6.1 Packing group: II EMS-No: F-A, S-A
Proper shipping name: ALKALOID SALTS, SOLID, N.O.S. (Caffeine)
Marine pollutant: No

IATA

UN-Number: 1544 Class: 6.1 Packing group: II
Proper shipping name: Alkaloid salts, solid, n.o.s. (Caffeine)

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. OTHER INFORMATION

Text of H-code(s) and R-phrases mentioned in Section 3

Acute Tox.	Acute toxicity
H302	Harmful if swallowed.
Xn	Harmful
R22	Harmful if swallowed.

Further information

Copyright 2010 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.