1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Caffeine
Product Number: C7721
Brand: Sigma-Aldrich
Supplier: Sigma-Aldrich Corporation
Address: 3000 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-525-5052
Emergency Phone #: (314) 776-5555
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards
Target Organ Effect: Toxic by ingestion, Irritant
Target Organs
Central nervous system, Heart
GHS Classification
Acute toxicity, Oral (Category 3)
Acute aquatic toxicity (Category 3)
GHS Label elements, including precautionary statements
Pictogram
Signal word: Danger
Hazard statement(s)
H301 Toxic if swallowed.
H402 Harmful to aquatic life.
Precautionary statement(s)
P244 Wash skin thoroughly after handling.
P254 Do not eat, drink or smoke when using this product.
P270 Avoid release to the environment.
P301+ P310 IF SWALLOWED: IMMEDIATELY CALL A POISON CENTER or doctor/physician.
P311 Specific treatment (see supplemental first aid instructions on this label).
P320 Rinse mouth.
P405 Store locked up.
P501 Dispose of container/contents to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: 1,3,7-Trimethylxanthine
Formula: C9H11N4O2
Molecular Weight: 194.19 g/mol
CAS No.: 58-05-2

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

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.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx).
Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not at product enter drains. Discharge into the environment must be avoided.
7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. 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
Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Whereas risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N95 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or EN 146 (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin and body protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substances at the specific workplace.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Solid

Colour

White

Density

1.230 g/cm³

Water solubility

Slightly soluble

Partition coefficient

n-octanol/water

Log Pow: -0.67

Relative vapour density

No data available

Odour

No data available

Odour threshold

No data available

Evaporation rate

No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

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 (NOx)

Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

1922 mg/kg

Inhalation LC50

No data available

Dermal LD50

No data available

Other information on acute toxicity

No data available

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

No data available
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)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Overexposure may cause reproductive disorders based on tests with laboratory animals.

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion Toxic if swallowed.

Skin May be harmful if absorbed through skin. Causes skin irritation.

Eyes Causes eye irritation.

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

Synergistic effects
no data available

Additional Information

RTECS: E96475000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - Leuciscus idus (Golden orfe) - 87 mg/l - 96 h

Toxicity to daphnia EC50 - Daphnia magna (Water flea) - 182 mg/l - 48 h

and other aquatic invertebrates.

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
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

no data available

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. 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

DOT (US)
UN number: 1644 Class: 6.1 Packing group III
Proper shipping name: Alkaloids, solid, n.o.s.
Marine pollutant: No
P Operations Hazard: No

IMDG
UN number: 1644 Class: 6.1 Packing group III
EMS No: F A, S A
Proper shipping name: ALKALOIDS, SOLID, N.O.S.
Marine pollutant: No

IATA
UN number: 1644 Class: 6.1 Packing group III
Proper shipping name: Alkaloids, solid, n.o.s.

15. REGULATORY INFORMATION

OSHA Hazards
Target Organ Effect, Toxic by ingestion, irritant

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (20 ppm) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

California

New Jersey Right To Know Components

California Prep. 85 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further Information

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