



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT CODE A0244
PRODUCT NAME CAFFEINE
SUPPLIER Shanghai M & U International Trade Co., Ltd.
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FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)

2. HAZARD IDENTIFICATION:

Emergency Overview

OSHA Hazards

Target Organ Effect, Toxic by ingestion

Target Organs

Central nervous system, Heart

GHS Classification

Acute toxicity, Oral (Category 4)

GHS Label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)

H302 Harmful if swallowed

Precautionary statement(s)

None

HMIS Classification

Health hazard 2

Flammability 1

Physical hazards 1

NFPA Rating	
Health hazard	2
Fire	1
Reactivity Hazard	0

Potential Health Effects

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

3. COMPOSITION AND INFORMATION ON INGREDIENTS:

SYNONYM	1,3,7-Trimethylxanthine	
Formula	C8 H10 N4 O2	
Molecular Weight	194.19 g/mol	
CAS-No	EC-No	Index-No
58-08-2	200-362-1	613-086-00-5

4. FIRST-AID GUIDE:

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. 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 GUIDE:

Conditions of flammability

Not flammable or combustible

Suitable extinguishing media

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

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary

Hazardous combustion products

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

6. ACCIDENTAL RELEASE GUIDE:**Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust

Environmental precautions

Do not let product enter drains

Methods and materials for containment and cleaning up

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

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

Conditions for safe storage

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

8. EXPOSURE AND PERSONAL PROTECTION:

Contains no substances with occupational exposure limit values

Personal protective equipment**Respiratory protection**

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (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

Safety glasses with side-shields conforming to EN166 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 substance at the specific workplace

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
Color	WHITE

Safety data

pH	5.5 - 6.5 at 10 g/l at 20 °C (68 °F)
Melting point (°C)	238
Boiling point (°C)	178
Flash point (°F)	Closed cup >200
Ignition temperature	540 °C (1,004 °F)
Auto ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapor pressure (mm Hg @20 °C)	760
Density @25 °C	1.230
Water solubility	SLIGHT
Partition coefficient: n-octanol /water	log Pow: -0.091 at 23 °C (73 °F)
Relative vapor density	6.7
Odor	ODORLESS
Odor 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)

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION:

Acute toxicity

Oral LD50

LD50 Oral - rat - male and female - 367.7 mg/kg

Inhalation LC50

LC50 Inhalation - rat - male and female - 4.94 mg/l

Dermal LD50

LD50 Dermal - rat - male and female - > 2,000 mg/kg

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - rabbit - No skin irritation - OECD Test Guideline 404

Serious eye damage/eye irritation

Eyes - rabbit - No eye irritation - OECD Test Guideline 405

Respiratory or skin sensitization

Mouse - Did not cause sensitization on laboratory animals.

Germ cell mutagenicity

Genotoxicity in vitro - rat - Kidney

Micronucleus test

Genotoxicity in vivo - mouse - Oral

Micronucleus test

Carcinogenicity

IARC

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

ACGIH

No components 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 components 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 components 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

No data available

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. May cause respiratory tract irritation
Ingestion	Toxic 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

Synergistic effects

No data available

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

Static test EC50 - Daphnia magna (Water flea) - 182 mg/l - 48 h

Method: DIN 38412

Toxicity to algae

Static test - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h

Method: OECD Test Guideline 201

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 RECOMMENDATIONS:

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. TRANSPORTATION INFORMATION:

DOT (US)

UN number: 1544 Class: 6.1 Packing group: III

Proper shipping name: ALKALOIDS, SOLID NOS

IMDG

UN number: 1544 Class: 6.1 Packing group: III

Proper shipping name: ALKALOIDS, SOLID NOS

IATA

UN number: 1544 Class: 6.1 Packing group: III
Proper shipping name: ALKALOIDS, SOLID NOS

15. REGULATORY INFORMATION:

OSHA Hazards

Target Organ Effect, Toxic by ingestion

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 (De Minimis) 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

Caffeine	CAS-No	Revision Date
	58-08-2	

New Jersey Right to Know Components

Caffeine	CAS-No	Revision Date
	58-08-2	

California Prop 65 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:

The information in this MSDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U's control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the products improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the MSDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the MSDS. The user should review these regulations to ensure full compliance.