



State of the art ingredients · fast friendly service

(MSDS)  
MATERIAL SAFETY DATA SHEET

## SECTION 1 :: PRODUCT IDENTIFICATION

**Chemical Name:** Caffeine, anhydrous  
**INCI:** Caffeine

## SECTION 2 :: DATA ON COMPONENTS

**Molecular Weight:** 194.19  
**Chemical Characterization:** C2-H10-N4-O2  
**FEMA number:** 2224  
**TSV Level:** 10 mg/m3  
Caffeine is regulated as a nuisance particulate, not otherwise classified.  
**Hazardous Impurities:** none

## SECTION 3 :: HAZARDS IDENTIFICATION

### Hazardous Material Information System (HMIS)

Health: 3 Fire: 0 Reactivity: 0 Persistence: 1

**Emergency Overview:** Silky white crystals or crystalline powder with bitter taste. Efflorescent. Toxic central nervous stimulant. Caffeine has been implicated in increased fetal losses and is considered a possible teratogen.

**Most Important Hazard:** Ingestion: may cause central nervous system stimulation resulting in insomnia, restlessness, increased respiration, delirium and may effect the cardiovascular system.

**Carcinogen status:** possible teratogen

## SECTION 4 :: FIRST AID MEASURES

**Eyes:** Flush eyes with water as a precaution. If eye irritation persists, consult with a specialist.

**Skin:** Wash off with soap and plenty of water. If skin irritation persists, call a physician.

**Inhalation:** Move to fresh air. If symptoms persist, call a physician.

**Ingestion:** If the patient is conscious, give two glasses of water and induce vomiting. Get immediate medical attention. Never give anything by mouth to an unconscious person.

**Protection of first-aiders:** no hazards which require special first aid measures.

## SECTION 5 :: FIRE FIGHTING MEASURES

**Flash Point:** not applicable

**Flammable limits:** 2.0-16%

**Autoignition temperature:** 925°C

**Extinguishing media:** Water spray, dry powder, foam, carbon dioxide

**Fire fighting Equipment/Instructions:** Do not scatter material with high pressure water streams. Dike fire control water for later disposal. Use standard procedure for chemical fire.

**Special protective equipment:** Use personal protective equipment including self-contained breathing apparatus when fighting fire in enclosed area.



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## SECTION 6 :: ACCIDENTAL RELEASE MEASURES

### Spill and Leak procedures

**Personal Precautions:** Use personal protective equipment. Avoid dust formation.

**Environmental Precautions:** Dispose according to federal, state and local authorities.

**Methods for cleaning up:** Sweep up and shovel. After cleaning, flush away with traces of water.

## SECTION 7 :: HANDLING AND STORAGE

**Technical measures/Precautions:** No special technical protective measures required.

**Safe handling advice:** No special handling advice require

**Technical measures/Storage conditions:** Keep tightly closed in a dry and cool place.

**Incompatible products:** No special restrictions on storage with other products.

**Packaging materials:** Store in original container.

## SECTION 8 :: EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Engineering measures:** Provide general dilute ventilation.

**Exposure limit(s):** Threshold Limit Value: 10 mg/m<sup>3</sup>, Nuisance Particulate, N.O.C.

**Respiratory:** NIOSH approved dust respirator

**Eyes:** safety glasses

**Skin:** lightweight protective clothing, gloves

**General:** Handle in accordance with good industrial hygiene and safety practice

## SECTION 9 :: PHYSICAL AND CHEMICAL PROPERTIES

**Form:** powder

**Color:** white

**Odor:** none

**Boiling point:** Sublimes at 178°C

**Specific Gravity:** 1.23

**Melting point/range:** 238°C

**Solubility in Water:** g/kg ~2.5% @ 20°C 1 gm in 46 ml water

**Freezing Point:** N/A

**Evaporation Rate:** N/A

**pH value:** 1% solution -6.9

**% volatiles by volume:** N/A

**Vapor Density:** N/A

**Vapor Pressure:** N/A

**Coefficient of water/oil distribution:** N/A

**Decomposition temperature:** unknown

**Bulk density:** unknown

**Explosive properties:** unknown



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## SECTION 10 :: STABILITY AND REACTIVITY

**Chemical Stability:** stable at normal conditions  
**Conditions to avoid if unstable:** N/A  
**Incompatibility with other materials:** strong acids, alkalis, oxidizers  
**Hazardous polymerization:** does not occur  
**Hazardous decomposition products:** N/A  
**Conditions to avoid:** Keep containers dry and tightly closed to avoid moisture absorption and contamination. Extreme heat may cause sublimation.

## SECTION 11 :: TOXICOLOGY INFORMATION

**Acute toxicity:** LD50/Oral/Human 192 mg/Kg  
**Chronic toxicity:** Chronic caffeine effects involve the status of experimental teratogen and carcinogen. In women it has been implicated in increased fetal losses.  
**Human experience:** Acute caffeine poisoning may cause insomnia, restlessness, tremor and delirium, tachycardia and extrasystoles.  
**Carcinogen content:** listed as an experimental carcinogen by NTP  
**Additional toxicity data:** R.T.E.C.S. #EV6475000, NIOSH

## SECTION 12 :: ECOLOGY INFORMATION

**Mobility:** completely soluble.  
**Persistence and degradability:**  
**Chemical oxygen demand:** unknown  
**Biochemical oxygen demand within 5 days:** (BOD5) Unknown  
**Bioaccumulation:** unknown  
**Ecotoxicity effects:** unknown

## SECTION 13 :: DISPOSAL CONSIDERATIONS

Waste from residues/unused products: any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

## SECTION 14 :: TRANSPORT INFORMATION

Not a Hazardous material for DOT shipping.

## SECTION 15 :: REGULATIONS

Is generally regarded as safe (GRAS) by the USA FDA  
Caffeine is not subjected to SARA section 313 reporting  
The ingredients are listed on the TSCA inventory list  
CERCLA (Comprehensive Response Compensation and Liability Act): N/A  
SARA Title 311 (Superfund Amendments and Reauthorization Bill): reporting not required under section 311

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Foreign Inventory Status:  
Canadian DSL (Domestic Substance List)

**SECTION 16 :: COMMENTS**

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with Ingredients To Die For or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.