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.
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 required.
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/m3, 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
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 sublimination.

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
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.