

## SAFETY DATA SHEET

Preparation Date: 03/26/2015

Revision date 4/15/2019

Revision Number: G3

### 1. IDENTIFICATION

**Product identifier**

**Product code:** CA105  
**Product Name:** CAFFEINE, ANHYDROUS, USP

**Other means of identification**

**Synonyms:** Caffein  
 Coffeine  
 Coffeinum  
 3,7-Dihydro-1,3,7-trimethyl-1H-purine-2,6-dione  
 Guaranine  
 Methyltheobromide  
 1H-Purine-2,6-dione, 3,7-dihydro-1,3,7-trimethyl-  
 Theobromine, 1-methyl-  
 Theophylline, 7-methyl  
 1,3,7-Trimethyl-2,6-dioxopurine  
 1,3,7-Trimethylxanthine  
 Xanthine, 1,3,7-trimethyl

**CAS #:** 58-08-2  
**RTECS #** EV6475000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Tom Tyner (USA - West Coast)  
**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 3
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**Label elements**

**Danger**

**Hazard statements**

Toxic if swallowed



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product

**Precautionary Statements - Response**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
Rinse mouth

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight-%
Caffeine, Anhydrous	58-08-2	100

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice:**

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

**Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:**

Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

**Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. WARNING! It may be hazardous to the person providing aid to give

mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention.

**Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Toxic if swallowed.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** May affect the cardiovascular system  
Hypertension  
Weak, rapid pulse or rapid heart rate (Tachycardia)  
Cardiac arrhythmias  
Heart palpitations  
Central nervous system effects  
May cause abdominal pain, nausea, vomiting, diarrhea  
May cause metabolic acidosis  
It may affect the kidneys  
Increase in urine volume  
Hypokalemia

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:** Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray mist or foam.

**Unsuitable Extinguishing Media:** No information available.

**Specific hazards arising from the chemical**

**Hazardous combustion products** Carbon Monoxide, Carbon Dioxide. Nitrogen oxides (NO<sub>x</sub>).

**Specific hazards** May be combustible at high temperatures.

**Special Protective Actions for Firefighters**

**Specific Methods:** No information available

**Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

**Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

**Incompatible Materials:**

Strong oxidizing agents  
Strong acids

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### National occupational exposure limits

##### United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Caffeine, Anhydrous	58-08-2	None	None	None	None

##### Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Caffeine, Anhydrous	58-08-2	None	None	None	None

##### Australia and Mexico

Component	CAS No	Australia	Mexico
Caffeine, Anhydrous	58-08-2	None	None

### Appropriate engineering controls

**Engineering measures to reduce exposure:** Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

**Eye protection:** Safety glasses with side-shields. or Goggles

**Skin and body protection:** Chemical resistant apron  
Gloves  
Long sleeved clothing

**Respiratory protection:** Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid	<b>Appearance:</b> Crystalline.	<b>Color:</b> White.
<b>Odor:</b> Odorless.	<b>Taste</b> Bitter.	<b>Formula</b> C <sub>8</sub> H <sub>10</sub> N <sub>4</sub> O <sub>2</sub>
<b>Molecular/Formula weight (g/mole):</b> 194.19	<b>Flammability (solid, gas)</b> no data available	<b>Flashpoint (°C/°F):</b> No information available
<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> 236-238°C/456.8-460.4°F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> No information available	<b>Bulk density:</b> No information available	<b>Density (g/cm<sup>3</sup>):</b> No information available
<b>Specific gravity:</b> 1.23	<b>pH</b> pH of a 1% solution = 6.9	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available

**Odor threshold (ppm):**  
No information available

**Partition coefficient  
(n-octanol/water):**  
log Kow = -0.07

**Viscosity:**  
No information available

**Miscibility:**  
No information available

**Solubility:**  
Freely soluble in pyrrole; in tetrahydrofuran containing about 4% water  
Partially soluble in acetone  
Partially soluble in alcohol  
Partially soluble in cold water  
Slightly soluble in Petroleum Ether  
Soluble in ethyl acetate  
Soluble in hot water  
Soluble in pyridine  
Solubility in water is increased by alkali benzoates, cinnamates, citrates or salicylates  
Very slightly soluble in diethyl ether

## 10. STABILITY AND REACTIVITY

**Reactivity**  
No information available

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Avoid dust formation. Incompatible materials.

**Incompatible Materials:** Strong oxidizing agents  
Strong acids

**Hazardous decomposition products:** Carbon oxides. Nitrogen oxides (NOx).

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Ingestion. Inhalation.

### Acute Toxicity

### Component Information

Caffeine, Anhydrous	
CAS No	58-08-2

**LD50/oral/rat** = 192 mg/kg Oral LD50 Rat  
**LD50/oral/mouse** = 127 mg/kg Oral LD50 Mouse  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = 230 mg/kg oral LD50 oral Guinea Pig; 230 mg/kg oral LD50 Hamster

**Product Information**

**LD50/oral/rat** =  
**Value - Acute Tox** = 192 mg/kg

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = 127 mg/kg

**LD50/dermal/rabbit**  
**Value - Acute Tox** = No information available

**LD50/dermal/rat**  
**VALUE - Acute Tox Dermal** = No information available

**LC50/inhalation/rat**  
**VALUE-Vapor** = No information available  
**VALUE-Gas** = No information available  
**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**  
**VALUE-Vapor** = No information available  
**VALUE - Gas** = No information available  
**VALUE - Dust/Mist** = No information available

**Symptoms**

**Skin Contact:** May cause skin irritation.

**Eye Contact:** May cause eye irritation.

**Inhalation** May cause respiratory irritation.

**Ingestion** Toxic if swallowed. May cause gastrointestinal (digestive) tract irritation with epigastric pain, abdominal cramps, nausea, vomiting and diarrhea. Affects metabolism and cardiovascular system with symptoms including increase in metabolism, flushing, palpitations, rapid heart rate, cardiac arrhythmias/dysrhythmias, hypertension (blood pressure elevation) and weight loss, metabolic acidosis. May affect brain and behavior/central nervous system. Symptoms may include nervousness, anxiety, restlessness, wakefulness, insomnia, dizziness, tremor, seizures, convulsions, hallucinations, somnolence, toxic psychosis, tremors, convulsions, ataxia. May also affect blood, respiration (hyperventilation, apnea), and urinary system (mild increase in urinary volume and urinary sodium excretion), kidneys, and may directly produce hypokalemia.

**Aspiration hazard** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** May cause digestive tract disturbances (increased gastric acid, and pepsin secretion and a decrease in lower esophageal sphincter pressure), cardiovascular disturbances. Since it is a CNS stimulant, it may also affect the Central Nervous System (CNS).

**Sensitization:** No information available.

**Mutagenic Effects:** May affect genetic material  
 Cytogenic analysis - hamster ovary  
 Cytogenetic Analysis: human embryo  
 Cytogenic analysis - human leukocyte  
 Cytogenetic Analysis: human lymphocyte  
 Sister Chromatid exchange (hamster lung; human lymphocyte)  
 Mutations in microorganisms  
 Experiments with bacteria and/or yeast have shown mutagenic effects

**Carcinogenic effects:** Not classifiable as to its carcinogenicity to humans.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Caffeine, Anhydrous	58-08-2	Monograph 51 [1991]	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

*NTP (National Toxicology Program)*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available  
**Developmental Effects:** Animal studies have revealed evidence of developmental abnormalities  
 There is limited evidence that it may damage the developing human fetus  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target Organs:** No information available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.

*Caffeine, Anhydrous - 58-08-2*

**Fish** LC50: =151mg/L (96h, Pimephales promelas)  
**Crustacea** EC50: =182.12mg/L (4h, Daphnia species)

**Persistence and degradability:** No information available



**Bioaccumulative potential:** No information available.  
**Mobility in soil** No information available  
**Other adverse effects** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**  
Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**  
Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Caffeine, Anhydrous	58-08-2	None	None	None	None

**14. TRANSPORT INFORMATION**

**DOT**

**UN-No:** UN1544  
**Proper Shipping Name:** Alkaloids, solid, n.o.s. (Caffeine)  
**Hazard Class** 6.1  
**Subsidiary Class** No information available  
**Packing group:** III  
**Emergency Response Guide Number** No information available  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions** No Information available  
**Symbol(s):** [DOT]: (G) - Identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description.  
**Description:** UN1544,Alkaloids, solid, n.o.s. ,6.1,PG III

**TDG (Canada)**

**UN-No:** UN1544  
**Proper Shipping Name:** Alkaloid salts, solid, n.o.s.  
**Hazard Class** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Marine Pollutant** No Information available  
**Description:** UN1544,ALKALOID SALTS, SOLID, N.O.S.,6.1,PG III

**ADR**

**UN Number** UN1544  
**Proper Shipping Name:** Alkaloids, solid, n.o.s.(papaverine hydrochloride)  
**Transport hazard class(es)** 6.1  
**Packing group** III  
**Subsidiary Risk:** No information available  
**Description:** UN1544 Alkaloids, solid, n.o.s.,6.1,III

**IMDG**

**UN-No:** UN1544  
**Proper Shipping Name:** Alkaloids, solid, n.o.s.(papaverine hydrochloride)  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Marine Pollutant:** No information available  
**EMS:** F-A

**RID**

**UN Number** UN1544  
**Proper Shipping Name:** Alkaloids, solid, n.o.s.(papaverine hydrochloride)  
**Transport hazard class(es)** 6.1  
**Subsidiary Risk:** No information available  
**Packing group** III  
**Description:** UN1544 Alkaloids, solid, n.o.s.,6.1,III

**ICAO (air)**

**UN-No:** UN1544  
**Proper Shipping Name:** Alkaloids, solid, n.o.s.(papaverine hydrochloride)  
**Hazard Class** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** UN1544,Alkaloids, solid, n.o.s.,6.1,PG III

**IATA**

**UN Number** UN1544  
**Proper Shipping Name:** Alkaloids, solid, n.o.s.(papaverine hydrochloride)  
**Transport hazard class(es)** 6.1  
**Subsidiary Risk:** No information available  
**Packing group** III  
**Precautionary Statements - Response** 6L  
**Special Provisions** No information available  
**Description:** UN1544,Alkaloids, solid, n.o.s.,6.1,PG III

**15. REGULATORY INFORMATION**

**International Inventories**

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
<i>Caffeine, Anhydrous</i>	58-08-2	PresentACTIV E	Present KE-10766	Present	Present (9)-419	X	X	Present 200-362-1

**U.S. Regulations**

*Caffeine, Anhydrous*

**FDA - Food Additives Generally Recognized as Safe (GRAS):** 21 CFR 182.1180

**FDA - 21 CFR - Total Food Additives** 182.1180

- List Sourced from EAFUS

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

WARNING: This product contains a chemical known to the State of California to cause cancer. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Caffeine, Anhydrous	58-08-2	Not Listed	Not Listed	Not Listed	Not Listed

#### CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Caffeine, Anhydrous	58-08-2	None	None	None	None	None

#### U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Caffeine, Anhydrous	58-08-2	Not Applicable	Not Applicable

#### Canada

##### WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

The WHMIS 2015 classification of this product has not been validated or reviewed yet.

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

#### DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Caffeine, Anhydrous	58-08-2	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Caffeine, Anhydrous	58-08-2	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Caffeine, Anhydrous	58-08-2	Not listed

#### EU Classification

##### EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Caffeine, Anhydrous	58-08-2	Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification)613-086-00-5

##### EU - CLP (1272/2008)

#### R-phrases(s)

R22 - Harmful if swallowed

**S -phrase(s)**

S 2 - Keep out of the reach of children.

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Caffeine, Anhydrous	58-08-2	Xn; R22	No information	

**The product is classified in accordance with Annex VI to Directive 67/548/EEC****Indication of danger:**

Xn - Harmful

**16. OTHER INFORMATION**

**Preparation Date:** 03/26/2015  
**Revision date** 4/15/2019  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**