

Safety Data Sheet

Caffeine Anhydrous Powder

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Version: 2.0

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(30057897/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Caffeine Anhydrous Powder

Recommended use of the chemical and restriction on use

Recommended use*: Pharmaceutical agent; cosmetics

* The "Recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Synonyms: CAFFEINE ANHYDROUS PWD

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Combustible Dust	Combustible Dust (1)	Combustible Dust
Acute Tox.	4 (oral)	Acute toxicity
Aquatic Acute	3	Hazardous to the aquatic environment - acute

Pictogram:

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Signal Word:
Warning

Hazard Statement:

H302 May form combustible dust concentration in air.
Harmful if swallowed.
H402 Harmful to aquatic life.

Precautionary Statements (Prevention):

P273 Avoid release to the environment.
P270 Do not eat, drink or smoke when using this product.
P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P330 IF SWALLOWED: rinse mouth.

Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

The product is under certain conditions capable of dust explosion.

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

WARNING:

HARMFUL IF INHALED.

HARMFUL IF SWALLOWED.

INGESTION MAY CAUSE GASTRIC DISTURBANCES.

CAN FORM EXPLOSIVE DUST-AIR MIXTURES.

Avoid contact with the skin, eyes and clothing.

Avoid ingestion.

Use with local exhaust ventilation.

Wear a NIOSH-certified (or equivalent) particulate respirator.

Wear safety glasses with side-shields.

Wear chemical resistant protective gloves.

Wear protective clothing.

Eye wash fountains and safety showers must be easily accessible.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
58-08-2	80.0 - 100.0 %	Caffeine

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

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<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
58-08-2	80.0 - 100.0 %	Caffeine

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Wash thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Rinse mouth and then drink plenty of water. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: vomiting, gastrointestinal complaints, CNS irritability

Indication of any immediate medical attention and special treatment needed

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, dry powder, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:

water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

Burning produces harmful and toxic fumes.

Dust explosion hazard.

Advice for fire-fighters

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

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Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

6. Accidental release measures

Further accidental release measures:

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Ensure adequate ventilation.

Environmental precautions

Do not discharge into drains/surface waters/groundwater. Discharge into the environment must be avoided.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.

For large amounts: Pick up with suitable appliance and dispose of.

Dispose of absorbed material in accordance with regulations.

Nonsparking tools should be used.

7. Handling and Storage

Precautions for safe handling

Avoid the formation and deposition of dust.

Protection against fire and explosion:

Avoid whirling up the material/product because of the danger of dust explosion. Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids (2013 Edition) for safe handling.

Dust explosion class: Dust explosion class 2 (Kst-value 200 up to 300 bar m s⁻¹).

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed. Protect contents from the effects of light.

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8. Exposure Controls/Personal Protection

Advice on system design:

Provide local exhaust ventilation to control dust. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment

Respiratory protection:

Breathing protection if breathable aerosols/dust are formed. Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection:

Wear chemical resistant protective gloves., Consult with glove manufacturer for testing data.

Eye protection:

Safety glasses with side-shields and face shield.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Wearing of closed work clothing is recommended. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Hands and/or face should be washed before breaks and at the end of the shift.

9. Physical and Chemical Properties

Form:	powder	
Odour:	almost odourless	
Odour threshold:		not applicable, odour not perceivable
Colour:	white	
pH value:	5.5 - 6.5	(10 g/l, 20 °C)
melting range:	approx. 235 - 239 °C	
Boiling point:		not applicable
Flash point:		not applicable
Flammability:	not readily ignited	
Lower explosion limit:		For solids not relevant for classification and labelling.
Upper explosion limit:		For solids not relevant for classification and labelling.
Vapour pressure:		(25 °C) negligible
Relative density:	1.23	(20 °C)
Bulk density:	approx. 360 kg/m ³	
Vapour density:		not relevant
Partitioning coefficient n- octanol/water (log Pow):	-0.091	(23 °C) (Directive 92/69/EEC, A.8)

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Self-ignition temperature:		not self-igniting
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:		not applicable, the product is a solid
Particle size:		(measured)
Solubility in water:	18.7 g/l	(16 °C)
	30.2 g/l	(28 °C)
Molar mass:	194.19 g/mol	

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

Corrosive effects to metal are not anticipated.

Oxidizing properties:

Based on its structural properties the product is not classified as oxidizing. (other)

Dust explosion class:

Dust explosion class 2 (Kst-value 200 up to 300 bar m s-1) (St 2)

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.
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Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid dust formation. Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static charge. Avoid light.

Incompatible materials

No substances known that should be avoided.

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

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Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Harmful if swallowed.

Oral

Type of value: LD50

Species: rat

Value: 367 mg/kg (BASF-Test)

Inhalation

Type of value: LC50

Species: rat

Value: approx. 4.94 mg/l (OECD Guideline 403)

Exposure time: 4 h

Dermal

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg (BASF-Test)

Assessment other acute effects

Assessment of STOT single:

Apart from effects causing lethality, no specific target organ toxicity was observed in experimental studies.

Irritation / corrosion

Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes.

Skin

Species: rabbit

Result: non-irritant

Method: OECD Guideline 404

Eye

Species: rabbit

Result: non-irritant

Method: OECD Guideline 405

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Mouse Local Lymph Node Assay (LLNA)

Result: Non-sensitizing.

Method: OECD Guideline 429

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No substance-specific organotoxicity was observed after repeated administration to animals.

Genetic toxicity

Assessment of mutagenicity: In the majority of tests performed (bacteria/microorganisms/cell cultures) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays.

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Carcinogenicity

Assessment of carcinogenicity: In long-term animal studies in which the substance was given in the drinking water in high doses, a carcinogenic effect was not observed. IARC Group 3 (not classifiable as to human carcinogenicity).

Reproductive toxicity

Assessment of reproduction toxicity: In high doses a potential to impair fertility cannot be fully excluded.

Teratogenicity

Assessment of teratogenicity: In animal studies the substance did not cause malformations.

Symptoms of Exposure

vomiting, gastrointestinal complaints, CNS irritability

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish

LC50 (96 h) 87 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates

EC50 (48 h) 182 mg/l, *Daphnia magna* (DIN 38412 Part 11, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic plants

EC50 (72 h) > 100 mg/l (growth rate), *Desmodesmus subspicatus* (OECD Guideline 201, static)

The details of the toxic effect relate to the nominal concentration.

Assessment of terrestrial toxicity

Study does not need to be conducted. Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

DIN 38412 Part 8 aerobic

bacterium/EC50 (17 h): 3,490 mg/l

Nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Readily biodegradable (according to OECD criteria). The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Elimination information

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90 - 100 % DOC reduction (22 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic)
Analogous: Assessment derived from products with similar chemical character.

Assessment of stability in water
Study scientifically not justified.

Bioaccumulative potential

Assessment bioaccumulation potential
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.
Study scientifically not justified.

Mobility in soil

Assessment transport between environmental compartments
Adsorption to solid soil phase is not expected.

13. Disposal considerations

Waste disposal of substance:

Do not discharge into waterways or sewer systems without proper authorization. Dispose of in accordance with national, state and local regulations.

Container disposal:

Dispose of in accordance with national, state and local regulations.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical	TSCA, US	released / listed
Pharma	TSCA, US	released / exempt
Cosmetic	TSCA, US	released / exempt

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Food TSCA, US released / exempt

EPCRA 311/312 (Hazard categories): Acute; Fire (Combustible Dust)

NFPA Hazard codes:

Health : 2 Fire: 1 Reactivity: 0 Special:

HMIS III rating

Health: 2 Flammability: 1 Physical hazard:0

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Aquatic Acute	3	Hazardous to the aquatic environment - acute
Acute Tox.	4 (oral)	Acute toxicity

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2015/01/14

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