

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Caffeine

Version	Revision Date:	SDS Number	Date of last issue: -
2.0	01.02.2021	300000017069	Date of first issue: 01.02.2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Caffeine

Substance name : Caffeine

CAS-No. : 58-08-2

EC-No. : 200-362-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Chemical substance

1.3 Details of the supplier of the safety data sheet

Company : CCEU Sp. z o.o.
ul. Ostatnia 45
PL 60-102 Poznan

Telephone : +48 888 666 474

E-mail address of person responsible for the SDS : reach@cristalchem.com

1.4 Emergency telephone number

Poisons Control Centre Krakow : +48 12 411 99 99
Emergency telephone number

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SECTION 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	:	
Signal Word	:	Warning
Hazard statement:	:	May form combustible dust concentration in air. H302 – 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.

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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.

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SECTION 3: Composition/information on ingredients

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

CAS Number : 58-08-2
Content (W/W) : 98.5 - 101.0 %
Chemical name : Caffeine

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

CAS Number : 58-08-2
Content (W/W) : 98.5 - 101.0 %
Chemical name : Caffeine

SECTION 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.

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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

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media : water spray, dry powder, carbon dioxide, foam

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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 : Fire fighters should be equipped with self-contained breathing apparatus and turn-out gear.

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.

SECTION 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

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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.

SECTION 7: Handling and storage

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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.

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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.

SECTION 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

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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.

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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.

SECTION 9: Physical and chemical properties

Form	: powder or granules
Odour	: almost odourless
Odour Threshold	: not applicable, odour not perceivable
Colour	: white
PH value	: 5.5 – 7.0
Melting range	: approx. 234 - 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.

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Upper explosion limit	: For solids not relevant for classification and labelling.
Vapour pressure	: not applicable
Relative density	: 1.23 (20 °C)
Vapour density	: not relevant
Solubility	: Soluble in hot water.
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

SECTION 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)

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

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.

SECTION 11: Toxicological information

Primary routes of exposure : Routes of entry for solids and liquids are ingestion and inhalation, but may include

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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.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity : Harmful if swallowed.

Oral

Type of value : LD50

Species : rat

Value : 383 mg/kg (OECD Guideline 401)

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 (OECD Guideline 402)

Assessment other acute effects

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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

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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.

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.

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Teratogenicity

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

Symptoms of Exposure

: vomiting, gastrointestinal complaints, CNS Irritability

SECTION 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 concen.

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

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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.

SECTION 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 regulation.

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SECTION 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

SECTION 15: Regulatory information

Federal Regulations

Registration status : Chemical- TSCA, US released / listed
Pharma - TSCA, US released / exempt
Cosmetic -TSCA, US released / exempt
Food - TSCA, US released / exempt

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

NFPA Hazard codes:

Health : 2

Fire : 1

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Reactivity : 0

Special : 0

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

SECTION 16: Other information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall **CCEU Sp z. o.o.** be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if **CCEU Sp z. o.o.** has been advised of the possibility of such damages.