



SAFFIRE BLUE *inc.*

Safety Data Sheet

Z-COTE® LSA-UC

Revision date : 2014/04/10

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Version: 1.0

(30616852/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Z-COTE® LSA-UC

Recommended use of the chemical and restriction on use

Recommended use: Pharmaceutical

* 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:

Saffire Blue inc.
1444 Bell Mill Side Road
Tillsonburg, ON N4G4G9
Canada

Emergency telephone number

CHEMTREC: 1-800-424-9300

2. Hazards Identification

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

Classification of the product

No need for classification according to GHS criteria for this product.

Label elements (Emergency overview)

The product does not require a hazard warning label in accordance with GHS criteria.

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Hazards not otherwise classified

Fine dust can form an inflammable mixture together with air.

Emergency overview

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

NO PARTICULAR HAZARDS KNOWN.

Avoid contact with the skin, eyes and clothing.

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>
1314-13-2	100.0 %	Zinc oxide

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

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
1314-13-2	100.0 %	Zinc oxide

4. First-Aid Measures

Description of first aid measures

General advice:

If adverse health effects develop seek medical attention.

If inhaled:

If difficulties occur after dust has been inhaled, remove to fresh air and seek medical attention.

If on skin:

Wash thoroughly with soap and water.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open. Seek medical attention if necessary.

If swallowed:

Rinse mouth and then drink plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms: No significant reaction of the human body to the product known.

Hazards: No hazard is expected under intended use and appropriate handling.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat symptomatically.

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5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:
carbon dioxide

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
harmful vapours

Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Avoid dust formation. Information regarding personal protective measures see, section 8.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.
For large amounts: Contain with dust binding material and dispose of.
Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

Avoid dust formation. Take precautionary measures against static discharges. Avoid all sources of ignition: heat, sparks, open flame.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds. Segregate from pesticides and fertilizers. Segregate from acids and bases as well as from alcohols. Segregate from combustible materials. Segregate from corrosive substances. Segregate from initiators. Segregate from oxidants. Segregate from reducing agents. Segregate from heavy metals. Segregate from heavy-metal salts.
Do not store with:

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Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE)

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

Unspecified
not heat sensitive

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Zinc oxide	OSHA	PEL 15 mg/m3 Total dust ; PEL 5 mg/m3
	PEL	Respirable fraction ; PEL 5 mg/m3 fumes/smoke ;
	ACGIH	TWA value 2 mg/m3 Respirable fraction ; STEL
	TLV	value 10 mg/m3 Respirable fraction ;
Zinc oxide	OSHA	PEL 15 mg/m3 Total dust ; PEL 5 mg/m3
	PEL	Respirable fraction ; PEL 5 mg/m3 fumes/smoke ;
	ACGIH	TWA value 2 mg/m3 Respirable fraction ; STEL
	TLV	value 10 mg/m3 Respirable fraction ;

Advice on system design:

No applicable information available.

Personal protective equipment

Respiratory protection:

Breathing protection if breathable aerosols/dust are formed. Suitable respiratory protection for higher concentrations or long-term effect: Particle filter with high efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P3 or FFP3).

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other, Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. No eating, drinking, smoking or tobacco use at the place of work. Handle in accordance with good industrial hygiene and safety practice.

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9. Physical and Chemical Properties

Form:	powder	
Odour:	odourless	
Odour threshold:	No data available.	
Colour:	almost white	
pH value:		not applicable
Melting point:	approx. 1,970 °C	
:		No applicable information available.
:		No applicable information available.
Flammability:	not flammable	
Flammability of Aerosol Products:		not applicable, the product does not form flammable aerosols)
Lower explosion limit:		not determined
Autoignition:		not determined
Vapour pressure:		No applicable information available.
Relative density:		No applicable information available.
Bulk density:	approx. 300 kg/m ³	
Vapour density:		not applicable
Partitioning coefficient n-octanol/water (log Pow):		not determined
Self-ignition temperature:		not self-igniting
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:		not determined
Viscosity, kinematic:		not determined
Solubility in water:		insoluble
Solubility in other solvents:		No applicable information available.
Solubility (qualitative):	insoluble solvent(s): organic solvents,	
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section., No further information available.	

10. Stability and Reactivity

Reactivity

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

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
not fire-propagating

Chemical stability

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

Peroxides: The product does not contain peroxides. The product/the substance has not a tendency towards the formation of peroxide.

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Possibility of hazardous reactions

Hazardous reactions:

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

Conditions to avoid

Conditions to avoid:

See MSDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:

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.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation.

Oral

Type of value: LD50

Species: rat

Value: > 5,000 mg/kg (OECD Guideline 401)

Inhalation

Type of value: LC50

Species: rat (male/female)

Value: > 5.7 mg/l

Exposure time: 4 h

Dermal

Study does not need to be conducted.

Irritation / corrosion

Assessment of irritating effects:

Not irritating to the skin. May cause slight irritation to the eyes.

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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.

Species: guinea pig
Result: Non-sensitizing.
Method: OECD Guideline 406

Aspiration Hazard

not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: The substance may cause damage to the kidney after repeated ingestion. Prolonged and repeated exposure may cause blood disorders. The substance may cause damage to the lung after repeated inhalation.

Genetic toxicity

Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was mutagenic in a mammalian cell culture test system. The substance was genotoxic in mammalian cell culture.

Carcinogenicity

Assessment of carcinogenicity: The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity

Assessment of reproduction toxicity: Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition. As shown in animal studies, the product may cause damage to the testes after repeated high exposures that cause other toxic effects.

Teratogenicity

Assessment of teratogenicity: In animal studies the substance did not cause malformations. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Symptoms of Exposure

No significant reaction of the human body to the product known.

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12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Very toxic (acute effect) to aquatic organisms. Depending on local conditions and existing concentrations, disturbances in the biodegradation process of activated sludge are possible. May cause long-term adverse effects in the aquatic environment.

Toxicity to fish

LC50 (96 h) > 0.1 - 1 mg/l, *Oncorhynchus mykiss* (static)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic invertebrates

EC50 (48 h) > 0.1 - 1 mg/l, *Ceriodaphnia dubia*

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic plants

EC50 (72 h) > 0.1 - 1 mg/l, *Pseudokirchneriella subcapitata* (OECD Guideline 201, static)

Chronic toxicity to fish

No observed effect concentration (30 d) 0.039 mg/l, *Oncorhynchus mykiss* (OECD Guideline 215, Flow through.)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Chronic toxicity to aquatic invertebrates

No observed effect concentration (50 d) 0.031 mg/l, *Daphnia magna* (semistatic)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. Nominal concentration.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

bacterium/EC10 (30 min): > 1 - 10 mg/l

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Inorganic product which cannot be eliminated from water by biological purification processes.

The product is virtually insoluble in water and can thus be separated from water mechanically in suitable effluent treatment plants.

Bioaccumulative potential

Assessment bioaccumulation potential

Significant accumulation in organisms is not to be expected.

Mobility in soil

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Assessment transport between environmental compartments
not applicable

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

14. Transport Information

Land transport

USDOT

Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(contains ZINC OXIDE)

Sea transport

IMDG

Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM
Marine pollutant: YES
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(contains ZINC OXIDE)

Air transport

IATA/ICAO

Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(contains ZINC OXIDE)

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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EPCRA 311/312 (Hazard categories): Not hazardous;

EPCRA 313:

<u>CAS Number</u>	<u>Chemical name</u>
1314-13-2	Zinc oxide

State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
MA, NJ, PA	1314-13-2	Zinc oxide

NFPA Hazard codes:

Health : 1 Fire: 1 Reactivity: 0 Special:

HMIS III rating

Health: 1 Flammability: 1 Physical hazard: 0

16. Other Information

SDS Prepared by:

NA Product Regulations
SDS Prepared on: 2014/04/10

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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