

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 02.20.2018

Page 1 of 9

Zirconyl Chloride Octahydrate

SECTION 1: Identification

Product identifier

Product name: Zirconyl Chloride Octahydrate

Product code: ZC5000

Recommended use of the product and restriction on use

Relevant identified uses: Laboratory

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

United States

AquaPhoenix Scientific, Inc.

860 Gitts Run Road

Hanover, PA 17331

1-717-632-1291

Emergency telephone number:

United States

ChemTel Inc

+1(800)255-3924

+1(813)248-0585

SECTION 2: Hazard identification

GHS classification:

Combustible dust

Skin corrosion, category 1B

Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H900 May form combustible dust concentrations in air

H314 Causes severe skin burns and eye damage

Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapors/spray

P264 Wash skin thoroughly after handling

P280 Wear protective gloves/protective clothing/eye protection/face protection

P321 Specific treatment (see supplemental first aid instructions on this label).

P363 Wash contaminated clothing before reuse

P304+P340+P310 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 02.20.2018

Page 2 of 9

Zirconyl Chloride Octahydrate

P301+P330+P331+P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353+P310 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.

P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

P405 Store locked up

P501 Dispose of contents and container as instructed in Section 13

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 13520-92-8	Zirconyl Chloride Octahydrate	100

Additional Information: None

SECTION 4: First-aid measures

Description of first-aid measures

General notes:

Not determined or not available.

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position

Maintain an unobstructed airway

Get medical advice/attention if you feel unwell

Move exposed individual to fresh air

Immediately call a POISON CONTROL CENTER or seek medical attention

After skin contact:

Rinse affected area with soap and water

If symptoms develop or persist, seek medical attention

Immediately remove all contaminated clothing

Wash affected area with soap and water

Immediately call a POISON CONTROL CENTER or seek medical attention

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes

If symptoms develop or persist, seek medical attention

Remove contact lens(es) if able to do so during rinsing

Immediately call a POISON CONTROL CENTER or seek medical attention

After ingestion:

Rinse mouth thoroughly

Seek medical attention if irritation, discomfort, or vomiting persists

Immediately call a POISON CONTROL CENTER or seek medical attention

Do not induce vomiting

Rinse mouth and then drink plenty of water

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 02.20.2018

Page 3 of 9

Zirconyl Chloride Octahydrate

Not determined or not available.

Delayed symptoms and effects:

Not determined or not available.

Immediate medical attention and special treatment

Specific treatment:

Not determined or not available.

Notes for the doctor:

Not determined or not available.

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

High concentrations of dust may lead to combustible mixtures with air

Special protective equipment for firefighters:

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

Special precautions:

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard

Carbon monoxide and carbon dioxide may form upon combustion

Heating causes a rise in pressure, risk of bursting and combustion

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Ensure air handling systems are operational

Wear protective eye wear, gloves and clothing

Wear dust mask or respirator

Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration

Environmental precautions:

Should not be released into the environment

Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing

Wear dust mask or respirator

Prevent generation of combustible dust in air mixtures

Sweep or scoop up solid material while minimizing dust generation

Dispose of contents / container in accordance with local regulations

Reference to other sections:

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 02.20.2018

Page 4 of 9

Zirconyl Chloride Octahydrate

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Use only with adequate ventilation.
Avoid breathing dust.
Do not eat, drink, smoke or use personal products when handling chemical substances.
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.
Prevent generation of combustible dust in air mixtures.

Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed.
Keep container dry.
Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Zirconyl Chloride Octahydrate	13520-92-8	ACGIH TLV STEL 10 mg/m ³
	Zirconyl Chloride Octahydrate	13520-92-8	ACGIH TLV TWA 5 mg/m ³ , as Zr
United States (OSHA)	Zirconyl Chloride Octahydrate	13520-92-8	OSHA PEL TWA 5 mg/m ³ , as Zr

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.
Biological monitoring may also be appropriate for some substances.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.
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).

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 02.20.2018

Page 5 of 9

Zirconyl Chloride Octahydrate

Skin and body protection:

Select glove material impermeable and resistant to the substance.

Wear appropriate clothing to prevent any possibility of skin contact.

Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

General hygienic measures:

Avoid contact with skin, eyes and clothing.

Wash hands before breaks and at the end of work.

Wash contaminated clothing before reuse.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance (physical state, color):	White Solid
Odor:	Odorless
Odor threshold:	Not determined
pH-value:	Not determined
Melting/Freezing point:	Not determined
Boiling point/range:	Not determined
Flash point:	Not determined
Evaporation rate:	Not determined
Flammability (solid, gaseous):	Not determined
Explosion limit upper:	Not determined
Explosion limit lower:	Not determined
Vapor pressure:	Not determined
Vapor density:	Not determined
Density:	Not determined
Relative density:	1.910 g/cm ³
Solubilities:	None
Partition coefficient (n-octanol/water):	Not determined
Auto/Self-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Dynamic viscosity:	Not determined
Kinematic viscosity:	Not determined
Explosive properties	Not determined
Oxidizing properties	Not determined

Other information

SECTION 10: Stability and reactivity

Reactivity:

Does not react under normal conditions of use and storage.

Chemical stability:

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 02.20.2018

Page 6 of 9

Zirconyl Chloride Octahydrate

Stable under normal conditions of use and storage.

Possibility of hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

Prevent generation of combustible dust in air mixtures.

Incompatible materials:

None known.

Hazardous decomposition products:

None known.

SECTION 11: Toxicological information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Skin corrosion/irritation

Assessment: Causes severe skin burns and eye damage

Product data: No data available.

Substance data:

Name	Result
Zirconyl Chloride Octahydrate	Causes severe skin burns.

Serious eye damage/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 02.20.2018

Page 7 of 9

Zirconyl Chloride Octahydrate

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Information on likely routes of exposure: No data available.

Symptoms related to the physical, chemical and toxicological characteristics: No data available.

Other information: No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Chronic (long-term) toxicity

Product data: No data available.

Substance data: No data available.

Persistence and degradability

Product data: No data available.

Substance data: No data available.

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

Canadian Transportation of Dangerous Goods (TDG)


Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015


Initial preparation date: 02.20.2018

Page 8 of 9


Zirconyl Chloride Octahydrate

UN number	UN 3260
UN proper shipping name	Corrosive solid, acidic, inorganic, n.o.s. Zirconium dichloride oxide
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	UN 3260
UN proper shipping name	Corrosive solid, acidic, inorganic, n.o.s. Zirconium dichloride oxide
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN 3260
UN proper shipping name	Corrosive solid, acidic, inorganic, n.o.s. Zirconium dichloride oxide
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

SECTION 15: Regulatory information

Canada regulations

Domestic substances list (DSL):

13520-92-8	Zirconyl Chloride Octahydrate	Not Listed
------------	-------------------------------	------------

Non-domestic substances list (NDSL): Not determined.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with the Canadian Hazardous Products Regulations and WHMIS 2015. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage,

Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 02.20.2018

Page 9 of 9

Zirconyl Chloride Octahydrate

transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

NFPA: 3-0-0

HMIS: 3-0-0

Initial preparation date: 02.20.2018

End of Safety Data Sheet