ZIRCONIUM OXYCHLORIDE

EAST HARBOUR GROUP

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

1.1. Product identifier

Product name:	Zirconium Oxychloride
CAS Number:	7699-43-6
EC Number:	231-717-9

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

Product use:	For R&D use only, Not for medical, household or other use.

1.3 Details of the supplier of the safety data sheet

Company name:	East Harbour Group Ltd 20 Clough Road, Severalls Industrial Park Colchester, Essex, CO4 9QS United Kingdom
Telephone:	+44 (0) 333 242 0100
Email:	info@eastharbourgroup.com

1.4 Emergency telephone number

Emergency telephone:	0800 246 1274

Section 2: Hazardous identification

2.1 Classification of the substance or mixture

Corrosive to metals, Category 1
Skin corrosion, Sub-category 1B
Serious eye damage, Category 1

2.2 Label elements

Labelling in accordance with Regulation (EU) No 1272/2008:
Pictograms:

Signal word	Danger

H Statements:

H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation

P Statements:

P260	Do not breathe dust / fume / gas / mist / vapours / spray.

ZIRCONIUM OXYCHLORIDE

EAST HARBOUR GROUP

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuerinsing

Prevention

P234	Keep only in original packaging
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash ... thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

Response

P390	Absorb spillage to prevent material damage.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P316	Get emergency medical help immediately.
P321	Specific treatment (see ... on this label).
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P305+P354+P338	IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P317	Get medical help.

Storage

P406	Store in a corrosion resistant/...container with a resistant inner liner.
P405	Store locked up.

Disposal

P501	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards.

No data available

Section 3: Composition/information on ingredients

3.1 Substances

Chemical Name:	Zirconium Oxychloride
CAS Number:	7699-43-6
EC Number:	231-717-9
MF:	Cl2OZr
MW:	178.13

ZIRCONIUM OXYCHLORIDE

EAST HARBOUR GROUP

Section 4: First aid measures

4.1 Description of first aid measures
If inhaled
Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.
Following skin contact
Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.
Following eye contact
Rinse with pure water for at least 15 minutes. Consult a doctor.
Following ingestion
Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed
No data available

4.3 Indication of any immediate medical attention and special treatment needed
No data available

Section 5: Fire-fighting measures

5.1 Fire Fighting Media and Instructions:
Use dry chemical, carbon dioxide or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak..

6.2 Environmental precautions
Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up
Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

ZIRCONIUM OXYCHLORIDE

EAST HARBOUR GROUP

Section 7: Handling and storage

7.1 Precautions for safe handling
Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities
Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials..

Section 8: Exposure controls/personal protection

8.1 Control parameters
Occupational Exposure limit values
No data available
Biological limit values
No data available

8.2 Exposure controls /
Appropriate engineering controls
Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Personal protective equipment
Eye/face protection
Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).
Skin protection
Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection
If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.
Thermal hazards
no data available

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Crystal
Colour	Clear Colourless
Odour	No data available
Melting Point/Range	-15°C
Boiling Point/Range	No data available
Flammability	No data available
Upper/lower flammability or explosive limits	No data available
Flash point	No data available
Autoignition temperature	No data available

ZIRCONIUM OXYCHLORIDE

Decomposition temperature	No data available
pH	No data available
Kinematic Viscosity	No data available
Water solubility	No data available
Partition coefficient n-octanol/water	No data available
Vapor pressure	No data available
Density or Relative density	1.344 g/mL at 25 °C
Relative vapor density	No data available
Particle characteristics	No data available

Section 10: Stability and Reactivity

10.1 Reactivity	No data available
10.2 Chemical Stability	No data available
10.3 Possibility of hazardous reactions	No data available
10.4 Conditions to avoid	No data available
10.5 Incompatible materials	No data available
10.6 Hazardous decomposition products	No data available

Section 11: Toxicological Information

11.1 Toxicological effects:
Mixture
Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

STOT-single exposure
No data available

STOT-repeated exposure
No data available

Aspiration hazard
No data available

Section 12: Ecological Information

12.1 Toxicity
Toxicity to fish: No data available
Toxicity to daphnia and other aquatic invertebrates: No data available
Toxicity to algae: No data available
Toxicity to microorganisms: No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects
No data available

Section 13: Disposal considerations

13.1 Waste treatment methods
Waste disposal of substance:
The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Container disposal:
Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

Section 14: Transport Information

UN Number

ADR/RID:	UN3260
IMDG:	UN3260
IATA:	UN3260

ZIRCONIUM OXYCHLORIDE

UN Proper Shipping Name
ADR/RID: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
IMDG: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
IATA: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.

Transport hazard class(es)
ADR/RID: 8
IMDG: 8
IATA: 8

Packing group, if applicable
ADR/RID: III
IMDG: III
IATA: III

Environmental hazards
ADR/RID: No
IMDG: No
IATA: No

Special precautions for user
No data available

Transport in bulk according to IMO instruments
VC1 VC2 AP7

Section 15: Regulatory Information

Safety, health and environmental regulations specific for the product in question
European Inventory of Existing Commercial Chemical Substances (EINECS)
Listed.
EC Inventory
Listed
United States Toxic Substances Control Act (TSCA) Inventory
Listed.
China Catalog of Hazardous Chemicals 2015
Not Listed.
New Zealand Inventory of Chemicals (NZIoC)
Listed.
PICCS
Listed.
Vietnam National Chemical Inventory
Listed
IECSC
Listed.
Korea Existing Chemicals List (KECL)
Listed

ZIRCONIUM OXYCHLORIDE

EAST HARBOUR GROUP

Section 16: Other Information

Abbreviations and acronyms
CAS: Chemical Abstracts Service
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
IMDG: International Maritime Dangerous Goods
IATA: International Air Transportation Association
TWA: Time Weighted Average
STEL: Short term exposure limit
LC50: Lethal Concentration 50%
LD50: Lethal Dose 50%
EC50: Effective Concentration 50%

References
IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
ECHA - European Chemicals Agency, website: https://echa.europa.eu/