

Revision Date 05-Nov-2010

Revision Number 1

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier**

**Product Description:** Bis(cyclopentadienyl)zirconium dichloride  
**Cat No.** 187920000; 187920050  
**Synonyms** Zirconocene dichloride

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

**Recommended Use** Laboratory chemicals  
**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

**Company**

Acros Organics BVBA  
 Janssen Pharmaceuticaaan 3a  
 2440 Geel, Belgium

**E-mail address** begel.sdsdesk@thermofisher.com

**Emergency Telephone Number**

For information in the US, call: 800-ACROS-01  
 For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99  
 Emergency Number, US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300  
 CHEMTREC Phone Number, Europe: 703-527-3887

## 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

**REGULATION (EC) No 1272/2008**

Skin Corrosion / irritation	Category 1
Serious Eye Damage/Eye Irritation	Category 1

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

For the full text of the R phrases mentioned in this Section, see Section 16

**Symbol(s)** C - Corrosive  
**R -phrase(s)** R34 - Causes burns

**Label Elements**



## 2. HAZARDS IDENTIFICATION

Signal Word

Danger

### Hazard Statements

H318 - Causes serious eye damage

H314 - Causes severe skin burns and eye damage

### Precautionary Statements - EU (§28, 1272/2008)

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P280 - Wear eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

### Other Hazards

No information available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC No.	Weight %	CAS-No	Classification	GHSCLAS
Zirconium, dichlorobis(.eta.5-2,4-cyclopentadien-1-yl)-	EEC No. 215-066-8	> 98	1291-32-3	C; R34	Skin Corr. 1B (H314)

**For the full text of the R phrases mentioned in this Section, see Section 16**

## 4. FIRST AID MEASURES

### Description of first aid measures

#### Eye Contact

Immediate medical attention is required Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes

#### Skin Contact

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes Immediate medical attention is required

#### Ingestion

Do not induce vomiting Call a physician immediately Clean mouth with water

#### Inhalation

Remove from exposure, lie down Move to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration Immediate medical attention is required

#### Notes to Physician

Treat symptomatically

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

#### Suitable Extinguishing Media

Carbon dioxide (CO<sub>2</sub>) Dry chemical chemical foam

#### Extinguishing media which must not be used for safety reasons

Water

**Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors

**Advice for fire-fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

**Environmental precautions**

Prevent further leakage or spillage if safe to do so

**Methods and material for containment and cleaning up**

Sweep up or vacuum up spillage and collect in suitable container for disposal Do not let this chemical enter the environment

**7. HANDLING AND STORAGE****Precautions for Safe Handling**

Do not breathe dust Do not breathe vapors or spray mist Do not get in eyes, on skin, or on clothing Do not ingest Use only in area provided with appropriate exhaust ventilation

**Conditions for safe storage, including any incompatibilities**

Keep in a dry place Keep container tightly closed Keep under nitrogen Keep refrigerated

**Specific End Uses****8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Control parameters****Exposure limits****Component**

Zirconium,  
dichlorobis(.eta.5-2,4-  
cyclopentadien-1-yl)-

European Union	The United Kingdom	France	Belgium	Spain
	STEL: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>			

**Derived No Effect Level (DNEL)**

No information available.

**Predicted No Effect Concentration (PNEC)**

No information available.

**Exposure controls****Engineering Measures**

Ensure adequate ventilation, especially in confined areas Ensure that eyewash stations and safety showers are close to the workstation location

**Personal protective equipment****Eye Protection**

Goggles

**Hand Protection**

Protective gloves

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice
<b>Environmental exposure controls</b>	No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Powder, Solid
<b>Appearance</b>	Beige
<b>odor</b>	No information available
<b>pH</b>	No information available.
<b>Vapor Pressure</b>	No information available.
<b>Vapor Density</b>	No information available.
<b>Boiling Point/Range</b>	No information available.
<b>Melting Point/Range</b>	242 - 245°C / 467.6 - 473°F
<b>Flash Point</b>	No information available.
<b>Water Solubility</b>	hydrolysis
<b>Molecular Formula</b>	C <sub>10</sub> H <sub>10</sub> Cl <sub>2</sub> Zr
<b>Molecular Weight</b>	292.32

## 10. STABILITY AND REACTIVITY

### Reactivity

#### Chemical Stability

Stable under normal conditions.

#### Possibility of Hazardous Reactions

**Hazardous Polymerization** No information available.

**Hazardous Reactions .** No information available.

#### Conditions to Avoid

Exposure to air, Incompatible products, Exposure to moist air or water.

#### Incompatible Materials

Acids, Bases, Alcohols, Halogens.

#### Hazardous Decomposition Products

Hydrogen chloride gas. Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## 11. TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Acute Toxicity

**Product Information** No acute toxicity information is available for this product

#### **Component Information**

#### Chronic Toxicity

**Carcinogenicity** There are no known carcinogenic chemicals in this product

#### **Sensitization**

No information available.

#### **Mutagenic Effects**

No information available

#### **Reproductive Effects**

No information available.

**11. TOXICOLOGICAL INFORMATION**

<b>Developmental Effects</b>	No information available.
<b>Target Organs</b>	No information available.
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information
<b>Endocrine Disruptor Information</b>	None known

**12. ECOLOGICAL INFORMATION**

<b>Toxicity</b>	
<b>Ecotoxicity effects</b>	Do not empty into drains

**Persistence and degradability**

No information available

**Bioaccumulative potential**

No information available.

**Mobility in soil**

No information available.

**Results of PBT and vPvB assessment****Other adverse effects**

No information available

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods**

<b>Waste from Residues / Unused Products</b>	Dispose of in accordance with local regulations
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<b>Contaminated Packaging</b>	Empty containers should be taken for local recycling, recovery or waste disposal
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**14. TRANSPORT INFORMATION****IMDG/IMO**

<b>UN-No</b>	3261
<b>Hazard Class</b>	8
<b>Packing Group</b>	III
<b>Proper Shipping Name</b>	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

**ADR**

<b>UN-No</b>	3261
<b>Hazard Class</b>	8
<b>Packing Group</b>	III
<b>Proper Shipping Name</b>	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

**IATA**

<b>UN-No</b>	3261
<b>Hazard Class</b>	8
<b>Packing Group</b>	III
<b>Proper Shipping Name</b>	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.*

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Inventories

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Zirconium, dichlorobis(.eta.5-2,4-cyclopentadien-1-yl)-	215-066-8	-		X	-	X	X	-	X	X	-

#### Legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory Lists

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**CHINA** - China Inventory of Existing Chemical Substances

**AICS** - Inventory of Chemical Substances

**KECL** - Existing and Evaluated Chemical Substances

### Chemical Safety Assessment

## 16. OTHER INFORMATION

#### Text of R phrases mentioned in Section 2-3

R34 - Causes burns

Revision Date 05-Nov-2010

Revision Summary Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

#### Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text

End of Safety Data Sheet