

Revision Date 23-Mar-2012

Revision Number 2

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description: Bis(cyclopentadienyl)vanadium
Cat No. 353400000; 353400010

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: 001-800-ACROS-01
 For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
 Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
 CHEMTREC Phone Number, Europe: 001-703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
REGULATION (EC) No 1272/2008

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 3
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ systemic toxicity (single exposure)	Category 3
Flammable solids.	Category 2

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

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

Symbol(s) F - Highly flammable
 T - Toxic

R-phrases(s) R11 - Highly flammable

Risk Combination Phrases R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed
 R36/37/38 - Irritating to eyes, respiratory system and skin

Bis(cyclopentadienyl)vanadium

Revision Date 23-Mar-2012

SECTION 2. HAZARDS IDENTIFICATION

Label Elements



Signal Word

Danger

Hazard Statements

- H301 - Toxic if swallowed
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H335 - May cause respiratory irritation
- H311 - Toxic in contact with skin
- H331 - Toxic if inhaled
- H228 - Flammable solid

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

- P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
- P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician
- P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Other Hazards

No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC-No.	Weight %	CAS-No	67/548/EEC Classification	CLP Classification - Regulation (EC) No 1272/2008	REACH No.

Bis(cyclopentadienyl)vanadium

Revision Date 23-Mar-2012

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Bis(cyclopentadienyl)vanadium 1277-47-0		95	1277-47-0	F; R11 T; R23/24/25 Xi; R36/37/38	Flam. Sol. 2 (H228) STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331)	-
--	--	----	-----------	---	---	---

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

SECTION 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 while removing all contaminated clothes and shoes. Immediate medical attention is required.

Ingestion

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

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Dry chemical. chemical foam.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Flammable. Explosive properties. Combustible material.

Advice for fire-fighters



Bis(cyclopentadienyl)vanadium

Revision Date 23-Mar-2012

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

SECTION 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

Avoid dust formation. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Sweep up or vacuum up spillage and collect in suitable container for disposal.

SECTION 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. Use only in area provided with appropriate exhaust ventilation. Use explosion-proof equipment. Use only non-sparking tools. Keep under nitrogen.

Conditions for safe storage, including any incompatibilities

Keep in a dry place. Keep container tightly closed. Keep away from heat and sources of ignition. Refrigerator/flammables. Keep under nitrogen.

Specific End Uses

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

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

Bis(cyclopentadienyl)vanadium

Revision Date 23-Mar-2012

Eye Protection
Hand Protection
Skin and body protection
Respiratory Protection

Goggles
 Protective gloves
 Wear appropriate protective gloves and clothing to prevent skin exposure
 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

Hygiene Measures
Environmental exposure controls

Handle in accordance with good industrial hygiene and safety practice
 No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Black
pH	No information available.
Boiling Point/Range	No information available.
Melting Point/Range	165 - 167°C / 329 - 332.6°F
Flash Point	No information available.
Autoignition Temperature	No information available.
Molecular Formula	C10 H10 V
Molecular Weight	181.13

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Chemical Stability

Moisture sensitive.

Possibility of Hazardous Reactions

Hazardous Polymerization No information available.
Hazardous Reactions . No information available.

Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition, Incompatible products, Exposure to moist air or water.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11. TOXICOLOGICAL INFORMATION

Bis(cyclopentadienyl)vanadium

Revision Date 23-Mar-2012

SECTION 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.

Developmental Effects

No information available.

Target Organs

No information available.

Other Adverse Effects

The toxicological properties have not been fully investigated.

Endocrine Disruptor Information

None known

SECTION 12. ECOLOGICAL INFORMATION**Toxicity****Ecotoxicity effects**

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants

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

Bis(cyclopentadienyl)vanadium

Revision Date 23-Mar-2012

SECTION 13. DISPOSAL CONSIDERATIONSWaste treatment methods

Waste from Residues / Unused Products Dispose of in accordance with local regulations

Contaminated Packaging Empty containers should be taken to local recyclers for disposal

SECTION 14. TRANSPORT INFORMATIONIMDG/IMO

UN-No	UN2926
Hazard Class	4.1
Subsidiary Hazard Class	6.1
Packing Group	II
Proper Shipping Name	Flammable solid, toxic, organic, n.o.s

ADR

UN-No	UN2926
Hazard Class	4.1
Subsidiary Hazard Class	6.1
Packing Group	II
Proper Shipping Name	Flammable solid, toxic, organic, n.o.s

IATA

UN-No	UN2926
Hazard Class	4.1
Subsidiary Hazard Class	6.1
Packing Group	II
Proper Shipping Name	Flammable solid, toxic, organic, n.o.s

SECTION 15. REGULATORY INFORMATIONSafety, health and environmental regulations/legislation specific for the substance or mixtureInternational InventoriesLegend

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

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

Bis(cyclopentadienyl)vanadium

Revision Date 23-Mar-2012

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

SECTION 16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R11 - Highly flammable

R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed

R36/37/38 - Irritating to eyes, respiratory system and skin

Revision Date

23-Mar-2012

Revision Summary

Not applicable

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

Disclaimer

The information provided on this Safety Data Sheet 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