

SAFETY DATA SHEET

Preparation Date: 11/12/2018

Revision Date: 11/12/2018

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: I1209
Product Name: IRIDIUM (IV) OXIDE

Other means of identification

Synonyms: No information available
CAS #: 12030-49-8
RTECS # Not available
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Oxidizing solids	Category 3
------------------	------------

Label elements

Warning

May intensify fire; oxidizer



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep/Store away from clothing and other combustible materials
 Take any precaution to avoid mixing with combustibles
 Wear protective gloves/protective clothing/eye protection/face protection

IN CASE OF FIRE: Use water to extinguish. Do not use dry chemicals or foams. CO2 or Halon may provide limited control.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Iridium (IV) Oxide	12030-49-8	100

4. FIRST AID MEASURES**First aid measures**

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention if irritation occurs.
- Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms May cause eye/skin irritation

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES**Extinguishing Media**

Suitable Extinguishing Media: Water. CO2 may be of no value in extinguishing fires involving oxidizers and may only provide limited control.

Unsuitable Extinguishing Media: Dry chemical. Foam. Halons.

Specific hazards arising from the chemical

Hazardous Combustion Products:

No information available.

Specific hazards:

Oxidizer. Keep away from combustible materials (wood, paper, oil, clothing, etc.). The product is not flammable, but it may cause fire when in contact with other material. Contact with combustible or organic materials may cause fire. Will accelerate burning when involved in a fire. Container explosion may occur under fire conditions or when heated.

Special Protective Actions for Firefighters

Specific Methods:

For large fires, flood fire area with water from a distance. Cool affected containers with flooding quantities of water. Do not get water inside containers. DO NOT use combustible materials such as sawdust.

Special Protective Equipment for Firefighters:

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

Personal Precautions:

Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition. Keep combustibles (wood, paper, oil, clothing, etc.) away from spilled material.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. Do not use combustible materials such as paper towels, sawdust, clothing, etc. to clean up spill. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from combustible material. Do not ingest. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store in a segregated and approved area. Do not store near combustible materials. Store away from incompatible materials.

Incompatible Materials:

Reducing agents
 Combustible materials
 Organic materials
 Acids
 Powdered metals

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**National occupational exposure limits****United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Iridium (IV) Oxide	12030-49-8	None	None	None	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Iridium (IV) Oxide	12030-49-8	None	None	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Iridium (IV) Oxide	12030-49-8	None	None

Appropriate engineering controls**Engineering measures to reduce exposure:**

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment**Personal Protective Equipment****Eye protection:**

Goggles

Skin and body protection:

Chemical resistant apron
 Long sleeved clothing
 Gloves

Respiratory protection:

Wear respirator with dust filter.

Hygiene measures:

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid	Appearance: Powder.	Color: Black.
Odor: Odorless.	Taste No information available.	Formula: IrO ₂
Molecular/Formula weight (g/mole): 224.20	Flammability: No information available	Flashpoint (°C/°F): No information available.
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): No information available	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F): No information available	Bulk density: No information available	Density (g/cm³): No information available
Specific gravity: No information available	pH: No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available	Viscosity: No information available
Miscibility: No information available	Solubility: Insoluble in water	

10. STABILITY AND REACTIVITY

Reactivity

Reacts with reducing agents

Reactive with metals

Contact with combustible materials (wood, paper, oil, clothing, etc.) may cause fire

It may be a fire risk in contact with organic materials

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Avoid dust formation. Contact with combustible materials (wood, paper, oil, clothing, etc.). Incompatible materials.

Incompatible Materials: Reducing agents
Combustible materials
Organic materials
Acids
Powdered metals

Hazardous decomposition products: No information available.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation.

Acute Toxicity

Component Information

Iridium (IV) Oxide	
CAS-No.	12030-49-8

- LD50/oral/rat** = No information available
- LD50/oral/mouse** = No information available
- LD50/dermal/rabbit** = No information available
- LD50/dermal/rat** = No information available
- LC50/inhalation/rat** = No information available
- LC50/inhalation/mouse** = No information available
- Other LD50 or LC50 information** = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 3900 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

- Skin Contact:** May cause skin irritation.
- Eye Contact:** May cause eye irritation.
- Inhalation** May cause irritation of respiratory tract.

Ingestion Health injuries are not known or expected under normal use.

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity No information available.

Sensitization: No information available.

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Iridium (IV) Oxide	12030-49-8	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target Organs: Blood. Methemoglobin formation.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Iridium (IV) Oxide	12030-49-8	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1479
Proper Shipping Name: Oxidizing solid, n.o.s. (iridium dioxide)
Hazard Class: 5.1
Subsidiary Class: No information available
Packing group: III
Emergency Response Guide Number: 140
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: 62, IB8, IP3, T1, TP33
Symbol(s): [DOT]: (G) - Identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description.
Description: UN1479, OXIDIZING SOLID, N.O.S., 5.1, III

TDG (Canada)

UN-No: UN1479
Proper Shipping Name: Oxidizing solid, n.o.s. (iridium dioxide)
Hazard Class: 5.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No Information available
Description: UN1479, OXIDIZING SOLID, N.O.S., 5.1, III

ADR

UN-No: UN1479
Proper Shipping Name: Oxidizing solid, n.o.s. (iridium dioxide)
Hazard Class: 5.1
Packing Group: III
Subsidiary Risk: No information available
Special Provisions: 274
Description: UN1479, OXIDIZING SOLID, N.O.S., 5.1, III

IMO / IMDG

UN-No: UN1479
Proper Shipping Name: Oxidizing solid, n.o.s. (iridium dioxide)
Hazard Class: 5.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No information available
EMS: F-A
Special Provisions: 223, 274, 900
Description: UN1479, OXIDIZING SOLID, N.O.S. (IRIDIUM (IV) OXIDE), 5.1, III

RID

UN-No: UN1479
Proper Shipping Name: Oxidizing solid, n.o.s. (iridium dioxide)
Hazard Class: 5.1

Subsidiary Risk: No information available
Packing Group: III
Special Provisions 274
Description: UN1479, OXIDIZING SOLID, N.O.S., 5.1, III

ICAO

UN-No: UN1479
Proper Shipping Name: Oxidizing solid, n.o.s. (iridium dioxide)
Hazard Class: 5.1
Subsidiary Risk: No information available
Packing Group: III
Description: UN1479, OXIDIZING SOLID, N.O.S., 5.1, III
Special Provisions A3

IATA

UN-No: UN1479
Proper Shipping Name: Oxidizing solid, n.o.s. (iridium dioxide)
Hazard Class: 5.1
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 5L
Special Provisions No information available
Description: UN1479, OXIDIZING SOLID, N.O.S., 5.1, III

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Iridium (IV) Oxide</i>	12030-49-8	PresentACTIV E	Present KE-21048	Present	Not present	Present	Not present	Present 234-743-9

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Iridium (IV) Oxide</i>	12030-49-8	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
<i>Iridium (IV) Oxide</i>	12030-49-8	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules	TSCA 8(d) -Health and Safety Reporting
<i>Iridium (IV) Oxide</i>	12030-49-8		

		(SNURS)	
Iridium (IV) Oxide	12030-49-8	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information: The WHMIS 2015 classification of this product has not been validated or reviewed yet.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Iridium (IV) Oxide	12030-49-8	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Iridium (IV) Oxide	12030-49-8	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Iridium (IV) Oxide	12030-49-8	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Iridium (IV) Oxide	12030-49-8	No information

EU - CLP (1272/2008)

R-phrase(s)

R 8 - Contact with combustible material may cause fire.

S-phrase(s)

S17 - Keep away from combustible material.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Iridium (IV) Oxide	12030-49-8		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

O - Oxidising.



16. OTHER INFORMATION

Preparation Date: 11/12/2018
Revision Date: 11/12/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet