

SAFETY DATA SHEET

Revision date: 7-August-2025

1. Identification

Product identifier

Product name	Iridium(IV) oxide
Cat No.:	MMS-Ir-0138
Synonyms	Iridium dioxide
CAS No	12030-49-8
Molecular Formula	IrO ₂
Use of the substance/mixture	Industrial, research applications For professional and industrial use only.

Details of the supplier of the safety data sheet

Supplier:	Momentum Materials Solutions Corp. 253147 Bears paw Road, Calgary, Alberta T3L 2P5 Canada Tel: +1 (368)997-9893 Fax: +1 (587)206-9760
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Emergency telephone

FOR EMERGENCIES INVOLVING
DANGEROUS GOODS
Call CANUTEC's 24-Hour Number:
1-888-226-8832 (Canada and US)
and/or 1-613-996-6666 (International)

2. Hazard(s) identification

Classification

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

Oxidizing solids	Category 2
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2

Pictogram



Signal Word

Danger

Hazard Statements

H272 - May intensify fire; oxidizer

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Precautionary Statements

Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P220 - Keep away from clothing and other combustible materials

P221 - Take any precaution to avoid mixing with combustibles

P264 - Wash face, hands and any exposed skin thoroughly after handling

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

Response

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

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P337 + P313 - If eye irritation persists: Get medical advice/attention

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

P403 - Store in a well-ventilated place

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards

Oxidizing. Contact with combustible material may cause fire.

Health Hazards

Causes skin irritation. Causes serious eye irritation.

Hazards not otherwise classified (HNOC)

- None

3. Composition/Information on Ingredients

Mixtures

Component	CAS-No.	Weight %
Iridium oxide (IrO ₂)	12030-49-8	100

4. First-aid measures

First-aid measures after inhalation	Remove from exposure, lie down. Remove to fresh air.
First-aid measures after skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
First-aid measures after eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
First-aid measures after ingestion	Clean mouth with water. Get medical attention.

Most important symptoms and effects, both acute and delayed

No information available

Notes to Physician

Treat symptomatically

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Dry chemical. Chemical foam.
Unsuitable extinguishing media	No information available
Flash Point	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available

Lower	No data available
Oxidizing Properties	Oxidizer
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Specific Hazards Arising from the Chemical	Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).
Hazardous Combustion Products	None known
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	OX

6. Accidental release measures

Personal precautions	Ensure adequate ventilation. Use personal protective equipment as required.
Environmental precautions	See Section 12 for additional Ecological Information.
Methods for containment and clean up	Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

7. Handling and storage

Handling

Avoid contact with skin and eyes. Do not breathe dust. Keep away from clothing and other combustible materials.

Storage

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials. Incompatible Materials. Strong oxidizing agents. Strong reducing agents. Combustible material.

8. Exposure controls / personal protection

Exposure Guidelines

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

Engineering Measures

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

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

A NIOSH/MSHA approved air purifying dust or mist respirator or European Standard EN 149.

Recommended Filter type

Particulates filter conforming to EN 143.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical state	Powder Solid
Colour	Black
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/range	1070 °C / 1958 °F
Boiling point/range	No information available
Flash point	No information available
Evaporation Rate	Not applicable
Flammability (solid, gas)	No information available
Flammability or explosive limits	

Upper	No data available
Lower	No data available
Vapour pressure	No information available
Vapour density	Not applicable
Specific Gravity	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	300 °C
Viscosity	Not applicable
Molecular Formula	IrO ₂
Molecular Weight	224.2

10. Stability and reactivity

Reactive Hazard	Yes
Stability	Oxidizer: Contact with combustible/organic material may cause fire.
Conditions to Avoid	Incompatible products. Excess heat. Combustible material.
Incompatible Materials	Strong oxidizing agents, Strong reducing agents, Combustible material
Hazardous Decomposition Products	None under normal use conditions
Hazardous Polymerization	No information available.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute toxicity	
Product Information	No acute toxicity information is available for this product
Component Information	
Toxicologically Synergistic Products	No information available
<u>Delayed and immediate effects as well as chronic effects from short and long-term exposure</u>	

Irritation

No information available

Sensitization

No information available

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Iridium oxide (IrO ₂)	12030-49-8	Not listed				

Mutagenic Effects

No information available

Reproductive Effects

No information available

Developmental Effects

No information available

Teratogenicity

No information available

STOT - single exposure

None known

STOT - repeated exposure

None known

Aspiration hazard

No information available

Symptoms/effects, both acute and delayed

No information available

Endocrine Disruptor Information

No information available

Other Adverse Effects

The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

Persistence and Degradability

Insoluble in water

Bioaccumulation/ Accumulation

No information available

Mobility

Is not likely mobile in the environment due its low water solubility.

13. Disposal considerations

Waste treatment methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and

national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No: UN1479

Proper Shipping Name:

OXIDIZING SOLID, N.O.S.

Technical Name: Iridium oxide (IrO₂)

Hazard Class: 5.1

Packing Group: II

TDG

UN-No: UN1479

Hazard Class: 5.1

Packing Group: II

Proper Shipping Name:

OXIDIZING SOLID, N.O.S.

IMDG/IMO

UN-No: UN1479

Hazard Class: 5.1

Packing Group: II

Proper Shipping Name: OXIDIZING SOLID, N.O.S.

IATA

UN-No: UN1479

Hazard Class: 5.1

Packing Group: II

Proper Shipping Name: OXIDIZING SOLID, N.O.S.

15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification -Active-Inactive	TSCA - EPA Regulatory Flags
Iridium oxide (IrO ₂)	12030-49-8	Listed	ACTIVE	Not listed

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Iridium oxide (IrO ₂)	12030-49-8	X	-	234-743-9	X	-	X	-	X	KE-21048

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

X – Listed

‘-‘ – Not listed

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know

Not applicable

Regulations**U.S. Department of Transportation**

Reportable Quantity (RQ)

N

DOT Marine Pollutant

N

DOT Severe Marine Pollutant

N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations**Mexico - Grade**

No information available

Authorisation/Restrictions according to EU

Not applicable

REACH

Component	CAS No	REACH (1907/2006) -Annex XIV – Substances Subject to Authorization	REACH (1907/2006) -Annex XVII – Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Iridium oxide (IrO ₂)	12030-49-8	-	-	-

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Iridium oxide (IrO ₂)	12030-49-8	Not applicable	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Iridium oxide (IrO ₂)	12030-49-8	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

Revision Date

22-Aug-2024

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release 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 or in any process, unless specified in the text

End of SDS