



SAFETY DATA SHEET

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) (OSHA HCS)

SECTION 1. IDENTIFICATION

Product name : Palladium 5% on Alumina
Product code : P2238

Manufacturer or supplier's details

Company name of supplier : TCI America
Address : 9211 N. Harbortgate Street Portland, OR 97203 U.S.A.
Telephone : +1-800-4238616/+1-503-2831681
Telefax : +1-888-5201075/+1-503-2831987
E-mail address : sales-US@TCIchemicals.com

Chemical Emergencies: TCI America (8:00am - 5:00pm) PST +1-503-2867624

Transportation Emergencies: Chemtrec 24-Hour +1-800-4249300 (U.S.A.)/+1-703-5273887 (International)

Recommended use of the chemical and restrictions on use

Recommended use : Use as laboratory reagent

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)
Specific target organ toxicity - repeated exposure : Category 1 (Lungs)

GHS label elements

Hazard pictograms :



Signal Word : Danger
Hazard Statements : H335 May cause respiratory irritation.
H372 Causes damage to organs (Lungs) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**

P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.

Response:

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P314 Get medical advice/ attention if you feel unwell.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

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

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS RN	Concentration (% w/w)
Aluminum(III) Oxide	1344-28-1	>= 90 - <= 100

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

In case of skin contact : Take off all contaminated clothing immediately. If on skin, rinse well with water. If skin irritation or rash occurs: Get medical advice/ attention.

In case of eye contact : Rinse with plenty of water. If easy to do, remove contact lens, if worn. If eye irritation persists: Get medical advice/ attention.

If swallowed : Get medical advice/ attention. Rinse mouth.

Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Dry powder, Foam, Water spray, Carbon dioxide (CO2)

Specific hazards during fire fighting : No information available.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Immediately evacuate personnel to safe areas. Remove undamaged containers from fire area if it is safe to do so.

Special protective equipment for fire-fighters : Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear suitable protective equipment. Keep people away from and up-wind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions : Prevent product from entering drains.

Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust.

SECTION 7. HANDLING AND STORAGE

Technical measures : Prevent dispersion of dust.

Local/Total ventilation : Ensure adequate ventilation. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Use a local exhaust ventilation.

Advice on safe handling : Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Wash hands and face thoroughly after handling. Don't leave used equipment or rag. This product may ignite if it is left stuck on combustibles such as paper, rags, etc. Handle under inert gas.

Conditions for safe storage : Keep container tightly closed. Store in a cool and shaded area. Keep in a well-ventilated place. Keep under inert gas. Store locked up.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS RN	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Aluminum(III) Oxide	1344-28-1	TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respira-	5 mg/m3	OSHA Z-1

		ble fraction)		
		TWA (Total dust)	10 mg/m3	OSHA P0
		TWA (respirable dust fraction)	5 mg/m3	OSHA P0
		TWA (Respirable particulate matter)	1 mg/m3 (Aluminum)	ACGIH

Engineering measures : Install a closed system or local exhaust. Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection : Dustproof gas mask, Self-contained breathing apparatus

Hand protection : Impervious gloves

Eye protection : Safety glasses, Safety goggles, Face-shield

Skin and body protection : Impervious protective clothing

*Use personal protective equipment (PPE) approved under appropriate government standards and follow local and national regulations.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Solid form
Color	: black
Odor	: No data available
Odor Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Boiling point/boiling range	: No data available
Flash point	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Solubility(ies)	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Molecular weight	: 106.42 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No data available
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: None under normal processing.
Incompatible materials	: Oxidizing agents, Strong acids, Combustible material
Hazardous decomposition products	: Metal oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

Aluminum(III) Oxide:

Acute toxicity (other routes of administration) : LD50 (Mouse): > 3,600 mg/kg
Application Route: Intraperitoneal injection

Skin corrosion/irritation : No information available.

Serious eye damage/eye irritation	: No information available.
Respiratory or skin sensitization	: No information available.
Germ cell mutagenicity	: No information available.
Carcinogenicity	
IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
Reproductive toxicity	: No information available.
STOT-single exposure	
<u>Product:</u>	
Assessment	: May cause respiratory irritation.
<u>Components:</u>	
Aluminum(III) Oxide:	
Assessment	: May cause respiratory irritation.
STOT-repeated exposure	
<u>Product:</u>	
Target Organs	: Lungs
Assessment	: Causes damage to organs through prolonged or repeated exposure.
<u>Components:</u>	
Aluminum(III) Oxide:	
Target Organs	: Lungs
Assessment	: Causes damage to organs through prolonged or repeated exposure.
Repeated dose toxicity	: No information available.
Aspiration toxicity	: No information available.
RTECS No.	: BD1200000 (Aluminum(III) Oxide)

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Aluminum(III) Oxide:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 114 mg/l
Exposure time: 48 h

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

- | | | |
|------------------------|---|--|
| Waste from residues | : | Disposal in accordance with local and national regulations. Entrust disposal to a licensed waste disposal company. |
| Contaminated packaging | : | Disposal in accordance with local and national regulations. Before disposal of used container, remove contents completely. |
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SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. Clean Water Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. Clean Water Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

Aluminum(III) Oxide

1344-28-1

Pennsylvania Right To Know

Aluminum(III) Oxide
Palladium

1344-28-1
7440-05-3

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California List of Hazardous Substances

Aluminum(III) Oxide
Palladium

1344-28-1
7440-05-3

California Permissible Exposure Limits for Chemical Contaminants

Aluminum(III) Oxide

1344-28-1

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Revision Date : 12/11/2024

This SDS was prepared sincerely based on the information obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling operations, sufficient care should be taken, in addition to the safety measures suitable for the given situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.