

Safety Data Sheet
According to OSHA and ANSI

Printing date 02/05/2013

Reviewed on 01/30/2013

1 Identification of the substance/mixture and of the company/undertaking**Product identifier**Product name: **Titanium powder**

Stock number: 10383

CAS Number:

7440-32-6

EC number:

231-142-3

Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company

Johnson Matthey Catalog Company, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency telephone number:**

During normal hours the Health, Safety and Environmental Department at (800) 343-0660. After normal hours call Carechem 24 at (866) 928-0789.

2 Hazards identification**Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS02 Flame

Self-heat. 2 H252 Self-heating in large quantities; may catch fire.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



F+; Highly flammable

R17: Spontaneously flammable in air.

Information concerning particular hazards for human and environment: Not applicable

Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS02

Signal word Warning**Hazard statements**

H252 Self-heating in large quantities; may catch fire.

Precautionary statements

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

P235+P410 Keep cool. Protect from sunlight.

P420 Store away from other materials.

P407 Maintain air gap between stacks/pallets.

P413 Store bulk masses greater than 1 lbs at temperatures not exceeding 100°F.

Hazard description:**WHMIS classification**

B6 - Reactive flammable material



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Classification system**HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	1
FIRE	2
REACTIVITY	2

Health (acute effects) = 1

Flammability = 2

Reactivity = 2

Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients**Chemical characterization: Substances****CAS# Description:**

7440-32-6 Titanium

Identification number(s):

EC number: 231-142-3

4 First aid measures**Description of first aid measures****After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.**Information for doctor****Most important symptoms and effects, both acute and delayed**

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures**Extinguishing media**

Suitable extinguishing agents Special powder for metal fires. Do not use water.

For safety reasons unsuitable extinguishing agents Water

Special hazards arising from the substance or mixture

Spontaneously flammable in air.

If this product is involved in a fire, the following can be released:

Metal oxide fume

Advice for firefighters**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Keep away from ignition sources.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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7 Handling and storage**Handling****Precautions for safe handling**

Handle under dry protective gas.
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Protect against electrostatic charges.
Substance/product is self ignitable.

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

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility:

Store away from oxidizing agents.
Store away from halogens.
Store away from halocarbons.
Store away from mineral acids
Store away from air.

Further information about storage conditions:

Store under dry inert gas.
This product is air sensitive.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters**Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: No data

Exposure controls**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:**Impervious gloves**

Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality.
Quality will vary from manufacturer to manufacturer.

Eye protection:

Safety glasses

Full face protection

Body protection: Protective work clothing.

9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Powder or granules
Color:	Dark grey
Odor:	Odorless
Odor threshold:	Not determined.

pH-value:	Not applicable.
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Change in condition

Melting point/Melting range:	1668°C (3034 °F)
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Boiling point/Boiling range:	3277°C (5931 °F)
Sublimation temperature / start:	Not determined
Flammability (solid, gaseous)	Not determined.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Spontaneously flammable in air.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not applicable.
Density at 20°C (68 °F):	4.506 g/cm ³ (37.603 lbs/gal)
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Insoluble
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided:
 Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions Spontaneously flammable in air.
Incompatible materials:
 Air
 Oxidizing agents
 Halogens
 Halocarbons
 Mineral acids
Hazardous decomposition products: Metal oxide fume

11 Toxicological information

Information on toxicological effects
Acute toxicity:
Primary irritant effect:
 on the skin: May cause irritation
 on the eye: May cause irritation
Sensitization: No sensitizing effects known.
Additional toxicological information:
 To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
 No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
 The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Behavior in environmental systems:
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Additional ecological information:
General notes:
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
 Do not allow material to be released to the environment without proper governmental permits.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

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Other adverse effects No further relevant information available.

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13 Disposal considerations**Waste treatment methods**

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number DOT, ADR, IMDG, IATA	UN2546
UN proper shipping name DOT, IMDG, IATA ADR	TITANIUM POWDER, DRY 2546 TITANIUM POWDER, DRY
Transport hazard class(es) DOT	
	
Class Label ADR	4.2 Substances liable to spontaneous combustion. 4.2
	
Class Label IMDG, IATA	4.2 (S4) Substances liable to spontaneous combustion 4.2
	
Class Label	4.2 Substances liable to spontaneous combustion. 4.2
Packing group DOT, ADR, IMDG, IATA	III
Environmental hazards: Marine pollutant:	No
Special precautions for user Danger code (Kemler): EMS Number: Segregation groups	Warning: Substances liable to spontaneous combustion 40 F-G, S-M Heavy metals and their salts (including their organometallic compounds), powdered metals
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	UN2546, TITANIUM POWDER, DRY, 4.2, III

15 Regulatory information

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

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

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Information about limitation of use: For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substances of very high concern (SVHC) according to REACH, Article 57
Substance is not listed.
REACH - Pre-registered substances Substance is listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.**Contact:**

Zachariah C. Holt

Global EHS Manager

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)

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