



SAFETY DATA SHEET

PRODUCT RELATED HEALTH DATA SHEET ©

DATE REVISED:

DATE PREPARED: 06/24/2015 REVISION #: 0.0

1. IDENTIFICATION

1.1 Product identifier

Product :TITANIUM DIOXIDE
Product Codes :F31, F31(B)HP, TA41, TA42
Chemical Name :TITANIUM DIOXIDE
CHEMICAL FORMULA :TiO₂
CAS NUMBER :13463-67-7
Color Index Number :77891
Color Index Name :PIGMENT WHITE 6
GENERAL USE :

1.2 Relevant identified uses of the substance or mixture and uses advised against
Not applicable.

1.3 Details of the supplier of the safety data sheet

CATHAY Industries USA Inc.

4901 Evans Ave

Valparaiso, IN 46383

Toll Free 855-4 CATHAY or 219-464-7395

1.4 Emergency telephone number

Emergency Number Domestic - CHEMTREC 1-800-424-9300
International - Collect 703-527-3887

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Irritant

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

GHS Label elements, including precautionary statements

Pictogram No pictogram.
Signal word No signal word.
Hazard statement(s) No hazard statement

HMIS Classification

Health hazard: 0
Flammability: 0
Physical Hazard: 0

NFPA Rating

Health hazard: 0
Fire: 0
Reactivity Hazard: 0

Page 1 of 10



Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May cause mechanical skin irritation.
Eyes	May cause mechanical eye irritation.
Ingestion	May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture : Mixture
Description :

Components	CAS#	EC#	% BY WEIGHT	EXPOSURE LIMITS OSHA PEL - ACGIH TLV
Titanium Dioxide (TiO ₂)	13463-67-7		100	15 mg/m ³ total – 10 mg/m ³ total

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

EYE CONTACT	: Hold eyelids apart and flush eyes with gently flowing water for at least 15 minutes or until the chemical is removed. Seek medical attention if irritation develops or persists.
INHALATION	: Remove to fresh air. If not breathing, give artificial respiration and seek medical attention. If breathing is difficult, give oxygen and seek medical attention.
SKIN CONTACT	: Wash immediately with soap and water. Get medical attention if irritation develops. Remove and wash clothing before re-wear.
INGESTION	: If more than a mouthful, give one or two glasses of water and seek medical attention. If unconscious, seek medical attention and do not give anything by mouth.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	: May cause mechanical irritation.
Inhalation	: Nuisance dust. Inhalation may cause irritation. Wear respirator, keep dust below recommended limits by employing engineering controls and avoid breathing dust.
Skin contact	: Skin irritation not likely except by mechanical action.
Ingestion	: If large amount, (more than a mouthful), may cause gastric irritation, nausea, or diarrhea. Seek medical attention.

Over-exposure signs/symptoms

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media :Not flammable.

Unsuitable extinguishing media :N/A

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture :This product is not combustible or flammable.

Hazardous combustion products :N/A

5.3 Advice for firefighters

Special precautions for fire-fighters :Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Use extinguishing agents suitable for surrounding combustibles. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters :Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel :No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

For emergency responders :If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions :Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill :Stop leak if without risk. Move containers from spill area. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Dispose of via a licensed waste disposal contractor. Caution – slippery when wet.

Large spill :Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal. Caution – slippery when wet.

6.4 Reference to other sections :See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

7. HANDLING AND STORAGE

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures :Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene :Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities : Store at ambient temperature away from excess heat or flame. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed immediately after use. Plastic wrap from palletized packages may bear significant static charge which can cause flash fire if near combustibles. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s) Recommendations : Not available

Industrial sector specific solutions: Not available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Components	CAS-No.	WT%	Value	Control parameters	Basis
Titanium Dioxide	13463-67-7	100	TWA	10 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Nuisance Dust				
			PEL	15 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1

Recommended monitoring procedures :If this product contains ingredients with exposure limits, personal, workplace atmosphere monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Derived effect levels No DELs available.

Predicted effect concentrations No PECs available.

8.2 Exposure controls

Appropriate engineering controls :No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual protection measures

Hygiene measures :Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks or before eating, smoking and using the lavatory and at the end of the working period. . Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection :Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Hand protection :Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal

technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands.

Body protection :Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection :Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection :For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. EH40/01 recommends adequate control of the exposure to dusts and where there is no indication for lower levels, personal exposure should be kept below: 8 hr TWA 10 mg/m³ total inhalable dust - 8 hr TWA 4 mg/m³ respirable dust

Environmental exposure controls :Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Fine Powder
Color	: White
Odor	: Odorless
pH	: 5.0 – 8.0
Melting point/freezing point	: N/A
Boiling range	: N/A
Flash point	: N/A
Flammability (solid, gas)	: Not available.
Burning time	: Not applicable.
Burning rate	: Not applicable.
Upper/lower flammability or explosive limits	: Not available.
Vapor pressure	: Not available.
Specific Gravity	: 3.7 – 4.1 @20° C
Bulk Density	: 0.5 – 0.8 gm/ml
Solubility in water	: Insoluble.
Partition coefficient: n- octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Percent Volatile	: <1 as water
Decomposition temperature	: Not available.
Viscosity	: Not available.
Explosive properties	: Not available.
Oxidizing properties	: Not available.
VOC	: None.
Chemical Formula	: TiO ₂

9.2 Other information

No additional information.

10. STABILITY AND REACTIVITY

10.1 Reactivity :No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability :Stable under recommended storage conditions.

10.3 Possibility of hazardous :None expected.

reactions

10.4 Conditions to avoid :None known.

10.5 Incompatible materials :N/A

10.6 Hazardous decomposition products :No decomposition expected under normal storage conditions.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acutetoxicity

Toxicological information is based on the toxicity profiles of components and other products that are similar in composition to this product.

Eyes :Material may irritate eyes.

Skin :Material may irritate skin.

Ingestion :May be harmful if swallowed.

Inhalation :May be harmful if inhaled. May cause respiratory tract irritation.

Chronic Effects : Epidemiology studies do not suggest an increase risk of cancer in humans from occupational exposure to titanium dioxide.

Conclusion/Summary :Not available.

Acute toxicity estimates

Eyes :Non-irritating (rabbit)

Skin :Non-irritating. Acute dermal LD50: >10,000 mg/kg (rat)

Ingestion :LD50 > 10,000 mg/l (rat)

Inhalation :LC50 > 6.8mg/l (rat)

Irritation/Corrosion

Conclusion/Summary :Prolonged exposure may be indicated by skin, eye and mucus membrane irritation.

Sensitizer

Conclusion/Summary :Not available.

Mutagenicity

Conclusion/Summary :Not available.

Carcinogenicity

Conclusion/Summary IARC: IARC has characterized this product as possible carcinogen to humans (Group 2B) through inhalation
NTP: No component of this product present at levels greater than or equal to 0.1% is Identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

Conclusion/Summary :Not available.

Teratogenicity

Conclusion/Summary :Not available.

Specific target organ toxicity

- single exposure (Globally

Harmonized System)

:Inhalation - May cause respiratory irritation.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation :May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion :May be harmful if swallowed.

Skin contact :May be harmful if absorbed through skin. Causes skin irritation.

Eye contact :Causes eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.
Ingestion : No specific data.
Skin contact : No specific data.
Eye contact : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available
Potential chronic health effects : Not available.

Conclusion/Summary : Not available.
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.
Other information : Not available.

12. ECOLOGICAL INFORMATION

Ecological information is based on the profiles of components and other products that are similar in composition to this product.

12.1 Toxicity

Conclusion/Summary
Toxicity to Fish : Not available
Toxicity to Microorganisms :Not available

12.2 Persistence and degradability

Conclusion/Summary :Not available.

12.3 Bioaccumulative potential

:Not determined but not expected in the environment.

12.4 Mobility in soil

Soil/water partition coefficient (KOC) :Not available.
Mobility :Not available.

12.5 Results of PBT and vPvB assessment

PBT :Not applicable.
vPvB :Not applicable.

12.6 Other adverse effects

:No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Waste Disposal: Dispose of in accordance with local, state, and federal regulations. As sold, this product is not classified as a RCRA hazardous waste as defined by 40CFR261. It is the responsibility of the user to determine RCRA classification of any product containing this iron oxide.

Hazardous waste:

Within the present knowledge of the supplier, this product is not regarded as hazardous waste. Disposal should be made in accordance with federal, state and local regulations.

Packaging



Methods of disposal: The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: None known.

14. TRANSPORT INFORMATION

	<u>DOT (US)</u>	<u>IMDG</u>	<u>IATA</u>
14.1 UN number	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(s)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.
14.6 Special precautions for user	Not available.	Not available.	Not available.
Additional information	-	-	-
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	:Not available.		

15. REGULATORY INFORMATION

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Substances of very high concern

None of the components are listed.

International Inventories

:All components of the product are listed on the following inventories:

TSCA (U.S.)

DSL (Canada)

EINECS (Europe)

AICS (Australia)

PICCS (Philippines)

IECSC (China)

METI / ENCS (Japan) 1-357

KECI (Korea)

HSNO (New Zealand)

Harmonized Tariff Code :

U.S. Regulations:

Clean Air Act –

Hazardous air Pollutants

:None.

Volatile Organic Compounds (VOC)

:None.

Ozone Depleting Substances (ODS)

:This product neither contains nor was manufactured with a Class I or Class II ozone depleting substance as defined by 40 CFR 82, Subpart A, Appendices A and B.

Clean Water Act – Priority Pollutants (PP):This product does not contain any priority pollutants defined by 40 CFR 401.15.

SARA 302 Components :No chemicals in this material are subject to the reporting requirements of SARA Title III,

Section 302.

SARA 313 Threshold :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.

Sara (311, 312) hazard Class :No SARA Hazards

TSCA: All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.

CALIFORNIA Proposition 65

Safe Drinking Water and Toxic

Enforcement Act Substances List : Titanium dioxide is known in the State of California to cause cancer. It does not cover titanium dioxide within a product matrix.

Massachusetts Right To Know : Not on list.

Pennsylvania Right To Know : Not on list.

New Jersey Right To Know : Not on list.

Canada

WHMIS hazard class :Non-controlled

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles :Not applicable.

Other EU regulations

Europe inventory :Not determined.

Black List Chemicals :Not listed

Priority List Chemicals :Not listed

Integrated pollution prevention and control list (IPPC) - Air :Not listed

Integrated pollution prevention and control list (IPPC) - Water :Not listed

International regulations

Chemical Weapons Convention List Schedule I :Not listed

Chemical Weapons Convention List Schedule II :Not listed

Chemical Weapons Convention List Schedule III :Not listed

15.2 Chemical Safety Assessment :Not determined.



16. OTHER INFORMATION

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

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*** END OF SDS ***