

Safety Data Sheet

1. Identification

Product name	Aluminium paste D451 RE
Name of manufacture:	TOYO ALUMINIUM K.K.
Name of section	QUALITY ASSURANCE DEPT
Address	MIDOSUJI DAIWA BLDG, 6-8, KYUTAROMACHI 3-CHOME, CHUO-KU, OSAKA, 541-0056, JAPAN
Telephone number	81-745-69-3489
Fax number	81-745-69-6859
Emergency telephone number	81-745-69-3091 (SHINJO works)
Recommended uses	Aluminium pigment for paint

Date of revision : June 12, 2015

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2. Hazard identification

· Hazard classification

Physical Hazards	Flammable solid	Category 1
Health Hazards	Skin corrosion/irritation	Category 3
	Specific target organ systemic toxicity (single exposure)	Category 3 (narcotic effects/respiratory tract irritation)
Environmental Hazards	Chronic hazards to the aquatic environment	Category 2

Hazards that aren't written as the above are "Can't classify" or "Off the subject".

· GHS Label elements

Pictogram



Signal word

Danger

Hazard statement

H228 Flammable solids
H316 Causes mild skin irritation
H335 May cause respiratory irritation
H336 May cause drowsiness and dizziness
H411 Toxic to aquatic life with long lasting effects

Precautionary statements

Obtain special instructions before use. (P201)

Prevention

Do not handle until all the safety precautions have been read and understood. (P202)
Keep away from ignition sources such as heat/sparks/open flame.-No smoking. (P210)
Ground/bond container and receiving equipment. (P240)
Avoid breathing mist/vapour/spray. (P261)
Wash the hands thoroughly after handling. (P264)
Do not eat, drink or smoke when using this product. (P270)
Use only outdoors or in a well-ventilated area. (P271)
Avoid release to the environment. (P273)
Wear protective gloves and eye/face protection. (P280)
Wear designated personal protective equipment. (P281)

Response

IF INHALED: If you feel unwell, call a doctor. (P304+P312)
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. (P304+P340)

	IF exposed or concerned get medical advice/attention. (P308+P313)
	If you feel unwell, get medical attention. (P314)
	In case of fire: Use appropriate extinguisher to extinguish. (P370+P378)
	Collect spillage. (P391)
Storage	Store in a well-ventilated place. (P403+P233)
	Store locked up. (P405)
Disposal	Commission the disposal to industrial waste disposer approved by regional governor. (P501)

3 . Composition/information on ingredients

Classification of the substance or mixture : Mixture

Chemical Name	Composition (%)	CAS No.
Aluminium flake	25 - 31	7429-90-5
Naphtha (petroleum), hydrodesulfurised heavy	47 - 53	64742-82-1
2-Propenoic acid, 2-methyl-, 1,1'-[2-ethyl-2-[[[2-methyl-1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester, homopolymer	5 - 7	26426-04-0
Diketo-Pyrrolo-Pyrrole	15 - 17	84632-65-5

4 . First-aid measures

IF INHALED:	Remove victim to fresh air and keep at rest and get medical attention.
IF ON SKIN:	Remove contaminated clothing/shoes, wash contaminated area with clean running water and soap. If inflammation or pain occurs, get medical attention/advice.
IF IN EYES:	Immediately rinse with plenty of clean running water for 15 minutes or more and get medical attention/advice.
IF SWALLOWED:	Remove materials in mouth and get medical attention/advice.
Protection of the person who gives the first aid:	In case of inhalation, first aid provider should wear protective mask, in case of skin contact, wear protective equipment such as rubber gloves. Wear protective glasses if necessary.
Special precautions for medical doctor:	Not specifically

5 . Fire-fighting measures

Extinguishing media:	Powder extinguisher, carbon dioxide gas, dry sand, glass fiber clothing
Unsuitable extinguishing media:	Water, extinguishing media containing water, halogen extinguishing media
Specific hazards:	May generate irritative and/or toxic gas by fire. Burn if intensively heated. May cause extremely dangerous explosion especially in closed environment (building, warehouse etc.). Package may explode by heat. Dust or fume may form explosive mixture gas with air. May ignite by friction, heat, spark or flame.
Specific fire-fighting method:	Use powder extinguisher or carbon dioxide gas at early stage of fire where only solvent is burning. At the final stage of fire, aluminum powder will ignite and burn with white light with releasing large heat. Try smothering extinguishment by covering the origin of fire by dry sand, glass cloth at this stage of fire. Continue smothering extinguishment until aluminum get cold because inside may be still burning without flame even when it seems to be extinguished. Treat or transport burned aluminum powder after confirming the inside temperature did not rise after one day. Product that is not burning should be removed promptly to safe place.

6 .Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear appropriate protective equipment (see 8. Exposure control/personal protection) and avoid contact with eye/skin and inhalation of gas.

Environmental precautions:

Do not release leakage to river or sewage directly.

Recovery and neutralization:

When leaked from the package wipe with cloth (waste cloth) and store in sealed package where no water, acid or alkali exists. Dispose of as industrial waste.

Methods and materials for containment and cleaning up:

Stop leakage, if safe to do so.

Prevention of secondary disaster:

Use equipment that do not cause spark.

Avoid flowing into drainage, sewage or the basement and other closed places.

7 .Handling and storage

[Handling]

Local exhaust/total ventilation:

Install equipment described in '8. EXPOSURE CONTROLS/PERSONAL PROTECTION'.

Special precautions:

Do not handle until all the safety precautions have been read and understood.

Prohibit using high temperature material, spark or fire in surrounding area.

Do not eat, drink or smoke when using this product.

Wash the hands thoroughly after handling.

Avoid swallow and contact with skin.

Use only outdoors or in a well-ventilated area.

Do not breathe dust, fume, gas, mist, vapor, spray.

Install ventilation for exhaust to keep the concentration in the air below the exposure limit.

Avoid release to the environment.

In case package swells by abnormal inner pressure:

-Package with degassing bulb on lid; Loosen the bulb gradually. Open after reducing pressure to the atmosphere pressure.

-Package without degassing bulb on lid; Hold the lid so that it will not fly and decrease pressure by gradually loosening handle lever and open.

[Storage]

Engineering measures:

In the store room, install the day lighting, lighting, and ventilating equipment needed for storing or handling hazardous substances.

Apply the fireproof structure to walls, pillars and floors of the storage room. Use noncombustible material for beams.

For floors of the storage room, apply a structure that prevents water influx/infiltration.

Storage conditions:

Store away from ignition sources such as heat, spark or fire.-No smoking.

Store away from oxidizing agent.

Store in sealed container at fixed place where protection from light and ventilation are adequate and temperature and humidity are appropriate.

Container material

Use containers specified by Fire Service Law or UN transport regulation.

8 .Exposure controls/personal protection

Administrative level, acceptable concentration limit

	Administrative level	Acceptable concentration limit	ACGIH
Aluminum	-	[Acceptable concentration limit of dust] (type 1dust) Inhalable dust 0.5mg/m3 Total dust 2mg/m3	TWA 1mg/m3 (R), STEL -
Naphtha(petroleum), hydrodesulfurised heavy	-	-	TWA 350mg/m3 , STEL -

Facility measures:

Use explosion-proof electrical/ventilating/lighting equipment.

When dust/fume/mist/gas is generated at high temperature install ventilation equipment to keep concentration of air pollutant below administrative level/acceptable concentration limit.

Handle in the place where total ventilation is installed.

General proper ventilation is good for control the concentration in the air.

Protective equipment:

Respiratory organ:

In case ventilation is not adequate, wear appropriate respiratory protection.

Use personal respiratory protective equipment as required.

Hand:

Use personal protective gloves as required..

Eye:

Wear appropriate eye protection.

Skin and body:

Wear appropriate face protection..

Use personal antistatic protective clothing and protective mask as required.

Hygienic measures:

Wash the hands thoroughly after handling

9. Physical and chemical properties

Appearance;	Metallic red-solid (paste)
Odor;	Petroleum odor
Odor threshold;	N.A.
pH;	No data
Melting point/freezing point;	N.A.
Initial boiling point and boiling range;	Refer to below table
Flash point;	Refer to below table
Evaporation rate;	N.A.
Flammability (solid);	UN Class 4.1
Upper/lower flammability or explosive limits;	Refer to below table
Vapor pressure;	Refer to below table
Vapor density;	N.A.
Relative density;	1.2(calculated)
Solubility;	Insoluble
Partition coefficient: n-octanol/water;	N.A.
Auto-ignition temperature;	Refer to below table
Decomposition temperature;	N.A.
Viscosity;	N.A.

Components	Flash point (°C)	Ignition point (°C)	initial boiling point (°C)	Boiling point (°C)	Vapour pressure	Density	Explosion limit	
							Upper	Lower
Naphtha(petroleum), hydrodesulfurised heavy	40 - 45	Ca. 300	148	148 - 200	Ca. 500Pa	3 - 4 (Air = 1)	6.5%	0.7%

10. STABILITY AND REACTIVITY

Stability:	Stable in air or under light shielded condition.
Hazardous/harmful reactivity:	React with water, acid, alkali, oxidizing agent metal oxide, halogen compound and generate hydrogen gas. Heat accelerates the reaction. Sealed container elevates inner pressure and may burst or the content may blow out and it is especially dangerous.
Conditions to avoid:	Organic solvent in the product may evaporate when temperature is elevated. Avoid contact with flame, spark, high temperature material and heating.
Incompatible materials:	Avoid contact with water, acid, alkali, oxidizing agent (peroxide, sulfuric acids etc), metal oxides (iron oxide etc.), halogen compounds (chlorine carbon hydrides).
Hazardous decomposition products:	May generate hydrogen gas.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	Less toxic is suspected Oral.Skin.LD ₅₀ , Rat 5000mg/kg or more (Naphtha(petroleum), hydrodesulfurised heavy)
Skin corrosion/irritation:	Category 3 is more than 10% and classified as Category 3.
Specific target organ systemic toxicity (single exposure):	Category 3 (narcotic effects/respiratory tract irritation) is more than 20% and classified as Category 3 (narcotic effects/respiratory tract irritation)

12. Ecological information

Environmental hazard (Chronic):	Category 2 is more than 25% and classified as Category 2.
Ecotoxicity:	Fish 1 < LC50 10mg/l (Naphtha(petroleum), hydrodesulfurised heavy)
Persistence and degradability:	No information at this point
Bioaccumulation:	No information at this point
Mobility in soil:	No information at this point
Other hazards:	No information at this point



13 . Disposal considerations

Disposal: Do not reuse empty package.
Do not put sealed container in a flame. Do not weld or melt down.
When dispose of waste product and empty container commission to legally approved industrial waste disposer.

Contaminated container and packing:

Confirm that there is not breakage, corrosion, leakage etc. of the package.
Pile containers in a way that does not cause falling, tumbling or breakage.
Put appropriate cover to avoid direct sunlight and penetration of rain.
Transfer the container avoiding significant friction or shaking.
Pack, label and transfer according to related regulations.

14 . Transport information

Land Transportation: Comply with regulations.
When aluminum paste significantly leak and there is a risk of fire during transportation take precautionary measures to prevent the fire and inform nearest fire service station..

Marine transportation: Comply with regulations.

Air transportation: Comply with regulations.

International regulation: UN class 4.1
UN number 1325
Proper shipping name:
Flammable solid, organic, N.O.S
(Aluminium Powder and Petroleum Mixture)
Packing group: II

Marine Pollutant Applicable

15 . Regulatory information

Ensure this material is on compliance with federal requirements and ensure it is conformity to local regulations.

16 . Other information

Reference documents Guidance for safe handling of aluminum paste 2004, 2nd revision, Japan Aluminum Association, Aluminum paste committee
Chemical Risk Information Platform, National Institute of Technology and Evaluation (NITE)

Material Safety Data Sheet is to provide reference information to assure the safe handling of the product.

The descriptions herein are based on the currently available sources, information and data but no guarantee is given for its contents, physico-chemical properties, risk or hazard. The precautions herein are for normal handling. If you use this product under the special conditions, take safety measures appropriate for the special use and usage.