SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard (29 CFR 1910.1200) and Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR)

Revision Date 25-Aug-2023 **Revision Number** 5

1. Identification

Product identifier

Product Name Aluminum Paste

Other means of identification

Product Code(s) TZ-585A; TZ-588A; TZ-788A; TZ-200A; TZ-350A; TZ-7150A; TZ-7155A; TZ-716A; TZ-816A; TZ-826A; TZ-65466A; MG1200

Synonyms Aluminum Paste

Recommended use of the chemical and restrictions on use

Recommended use Pigments and coatings manufacturing

Restrictions on use No information available.

Details of the supplier of the safety data sheet

Supplier Address
Toyal America, Inc.
17401 South Broadway
Lockport, IL 60441 USA
Facility Phone: 815-740-3000

Manufacturer Address
Toyal Zhaoqing Co., Ltd.
Linjiang Industry Park, Zhaoqing
High Technology Industry Development Zone, Zhaoqing
Guangdong, China
Post No. 526238
86-758-3602080

Emergency telephone number

Emergency telephone CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)

2. Hazard(s) identification

Classification

Specific target organ toxicity (single exposure)	Category 3

Label elements

Warning

Hazard statements
May cause respiratory irritation.

May cause drowsiness or dizziness.

Precautionary Statements - Prevention
Avoid breathing dust, fume, gas, mist, vapors and spray. Use only outdoors or in a well-ventilated area.
Precautionary Statements - Response
.
Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Precautionary Statements - Disposal
Dispose of contents and container to an approved waste disposal plant.

Other information
May be harmful in contact with skin. Harmful to aquatic life with long lasting effects. Harmful to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Synonyms Aluminum Paste

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Aluminum powder (stabilized)	7429-90-5	60-80	-	-
Naphtha (petroleum), hydrotreated heavy	64742-48-9	10-30	-	-
Solvent naphtha (petroleum), light arom.	64742-95-6	5-20	-	-
1,2,4 Trimethylbenzene	95-63-6	< 3	-	-
Oleic acid	112-80-1	<=2	-	-

4. First-aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air. IF exposed or concerned: Get medical advice/attention.

Eye contact Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if

symptoms occur.

Skin contact Wash skin with soap and water. Get medical attention if symptoms occur.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Most important symptoms and effects, both acute and delayed

Symptoms Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Carbon dioxide (CO2). Dry sand.

Unsuitable extinguishing media Water. Halogenated extinguishing agents.

Specific hazards arising from the chemical In the event of fire and/or explosion do not breathe fumes. Do not allow evaporation to dryness. Avoid generation of dust. Fine dust dispersed in air may ignite. In case of contact with acid or alkaline (as well as water), aluminum powder will react and emission of hydrogen will occur.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

Other information Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up with sand or other noncombustible absorbent material and place into containers for later disposal.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container dry. Store away from incompatible materials. See section 10 for more information. Keep away from food, drink and animal feeding stuffs.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Aluminum powder (stabilized) 7429-90-5	TWA: 1 mg/m^3 respirable particulate matter	TWA: 15 mg/m^3 total dust TWA: 5 mg/m^3 respirable fraction (vacated) TWA: 15 mg/m^3 total dust (vacated) TWA: 5 mg/m^3 respirable fraction	TWA: 10 mg/m^3 total dust TWA: 5 mg/m^3 respirable dust
1,2,4 Trimethylbenzene 95-63-6	-	-	TWA: 25 ppm TWA: 125 mg/m^3

Chemical name	Alberta	British Columbia	Ontario	Quebec
Aluminum powder (stabilized) 7429-90-5	TWA: 10 mg/m^3	TWA: 1.0 mg/m^3	TWA: 1 mg/m^3	TWA: 10 mg/m^3

Biological occupational exposure limits
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls Avoid release to the environment.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Avoid breathing vapors or mists.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance Silver paste
Physical state Solid

Color	Silver
Odor	Aromatic
Odor threshold	No information available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	1.8	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties	No information available.
Oxidizing properties	No information available.
Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity None under normal use conditions.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions In case of contact with acid or alkaline (as well as water), aluminum powder will react and emission of hydrogen will occur. May catch fire on contact with mineral acids, azo, diazo and hydrazine compounds, halogenated organic substances, and powerful oxidizing agents. May generate flammable gases on contact with mineral acids.

Conditions to avoid Incompatible materials. Do not allow evaporation to dryness. Dust formation.

Incompatible materials Incompatible with oxidizing agents. Water. Acids. Alcohols. Halogens. Alkalis. Nitrates. Halogenated hydrocarbons.

Hazardous decomposition products Hydrogen.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. May cause drowsiness or dizziness. May cause irritation of respiratory tract.

Eye contact Specific test data for the substance or mixture is not available. Contact with eyes may cause irritation.

Skin contact Specific test data for the substance or mixture is not available. May be harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Naphtha (petroleum), hydrotreated heavy	> 6000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	> 8500 mg/m^3 (Rat) 4 h
Solvent naphtha (petroleum), light arom.	= 8400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 3400 ppm (Rat) 4 h
1,2,4 Trimethylbenzene	= 3280 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 18 g/m^3 (Rat) 4 h
Oleic acid	= 25 g/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

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 No information available.

Reproductive toxicity No information available.

STOT - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea

			microorganisms	
Naphtha (petroleum), hydrotreated heavy 64742-48-9	-	LC50: =2200mg/L (96h, Pimephales promelas)	-	-
Solvent naphtha (petroleum), light arom. 64742-95-6	-	LC50: =9.22mg/L (96h, Oncorhynchus mykiss)	-	EC50: =6.14mg/L (48h, Daphnia magna)
1,2,4 Trimethylbenzene 95-63-6	-	LC50: 7.19 - 8.28mg/L (96h, Pimephales promelas)	-	EC50: =6.14mg/L (48h, Daphnia magna)
Oleic acid 112-80-1	-	LC50: =205mg/L (96h, Pimephales promelas)	-	-

Persistence and degradability No information available.

Bioaccumulation No information available.

Chemical name	Partition coefficient
1,2,4 Trimethylbenzene 95-63-6	3.63

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations, Dispose of waste in accordance with environmental legislation.

Contaminated packaging Dispose of contents/containers in accordance with local regulations.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Aluminum powder (stabilized) 7429-90-5	Ignitable powder

14. Transport information

DOT Not regulated as hazardous
IMDG Not regulated as hazardous Marine pollutant: No
IATA Not regulated as hazardous

15. Regulatory information

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA Contact supplier for inventory compliance status.

Chemical name	CAS No	US TSCA Inventory listing	US TSCA inactive/active designation
1,2,4 Trimethylbenzene	95-63-6	Present	Active

DSL/NDSL Contact supplier for inventory compliance status.

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Aluminum powder (stabilized) - 7429-90-5	1.0
1,2,4 Trimethylbenzene - 95-63-6	1.0

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)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Aluminum powder (stabilized) 7429-90-5	X	X	X
1,2,4 Trimethylbenzene 95-63-6	X	X	X
Oleic acid	-	-	X

112-80-1			

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	**Health hazards** 1	**Flammability** 0	**Instability** 0	**Physical and chemical properties** -
HMIS	**Health hazards** 1	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date 05-May-2015

Summary of Changes:

Rev 1, 5 May 2015 New SDS Format
Rev 2, 18 Sept 2015 Corrected name of 64742-48-9 in Section 3 & 11
Rev 3,7 Oct 2016 Changes to Sections 2,3,4,8,9,11,12,14 & 15
Rev 4, 16 Sept 2020 Revise for non-hazardous, no longer UN1325
Rev 5,25 Aug 2023 Revise Transportation - add IMDG and IATA

Revision Note Change to classification.

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 Safety Data Sheet