



SAFETY DATA SHEET

Revision date 14-Feb-2025

Revision Number 2

1. Identification

Product identifier

Product Name Part A: MetalSet A4

UN number or ID number 3082

Other means of identification

Product Code(s) FG-10A

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Formulated Epoxy Resin.

Restrictions on use No information available.

Details of the supplier of the safety data sheet

Manufacturer

Smooth-On, Inc, 5600 Lower Macungie Rd, Macungie, PA 18062, USA, Phone: +01.610.252.5800, www.smooth-on.com, sds@smooth-on.com

E-mail sds@smooth-on.com

Emergency telephone number

Emergency Telephone CHEMTEL +01-813-248-0585

2. Hazard(s) identification

Classification

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2A - (H319)
Skin sensitization	Category 1 - (H317)

Label elements

Warning

Hazard statements

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.



Exclamation mark

Precautionary Statements - Prevention

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 - Use only outdoors or in a well-ventilated area.

P264 - Wash face, hands and any exposed skin thoroughly after handling.

P272 - Contaminated work clothing should not be allowed out of the workplace.

P280 - Wear protective gloves.

Eyes

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical advice/attention.

Skin

P302 + P352 - IF ON SKIN: Wash with plenty of water and soap.

P362 + P364 - Take off contaminated clothing and wash it before reuse.

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.

Inhalation

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P311 - Call a POISON CENTER or doctor.

Precautionary Statements - Storage

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

P405 - Store locked up.

Precautionary Statements - Disposal

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

Other information

Toxic to aquatic life with long lasting effects.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%
Oxirane, 2,2-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer	25085-99-8	40 - 60
Aluminum	7429-90-5	20 - 40
Triphenyl Phosphite	101-02-0	5 - <10

4. First-aid measures

Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur. If breathing has

stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen.

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Get medical attention if irritation develops and persists. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin contact	May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. Wash off immediately with soap and plenty of water for at least 15 minutes.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician or poison control center immediately.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device Do not breathe vapor or mist Use personal protective equipment as required See section 8 for more information

Most important symptoms and effects, both acute and delayed

Symptoms	Itching. Rashes. Hives. Coughing and/ or wheezing. Difficulty in breathing.
Effects of Exposure	No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by skin contact.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective actions 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	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Do not breathe vapor or mist.
Other information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

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 Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Do not breathe vapor or mist. Handle product only in closed system or provide appropriate exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

8. Exposure controls/personal protection

Control parameters

Exposure Limits NOM-010-STPS-2014.

Chemical name	Mexico
Aluminum 7429-90-5	VLE-PPT: 1 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). None required for consumer use.

Hand protection Wear suitable gloves Impervious gloves
Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Paste / Gel Liquid
Appearance	Paste
Color	black
Odor	Mild
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	> 148.889 °C / 300 °F	None known
Evaporation rate	No data available	None known
Flammability	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
Relative vapor density	No data available	None known
Relative density	1.0 - 1.2	None known
Water solubility	Insoluble in water	None known
Solubility in other solvents	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

Oxidizing properties	No information available.
Explosive properties	No information available.
Molecular weight	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Excessive heat.

Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products None known based on information supplied.

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 irritation of respiratory tract. (based on components). Toxic by inhalation.
Eye contact	Specific test data for the substance or mixture is not available. Causes eye irritation. May cause redness, itching, and pain.
Skin contact	May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes skin irritation.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes. Coughing and/ or wheezing. Difficulty in breathing.

Acute toxicity Toxic by inhalation.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	7,175.50 mg/kg
ATEmix (dermal)	9,755.90 mg/kg
ATEmix (inhalation-dust/mist)	> 5 mg/l

Unknown acute toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum 7429-90-5	-	-	> 0.888 mg/L (Rat) 4 h
Triphenyl Phosphite 101-02-0	= 1590 mg/kg (Rat)	2000 - 5000 mg/kg (Rabbit)	> 6.7 mg/L (Rat) 1 h

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

Interactive effects	No information available.
Skin corrosion/irritation	Classification based on data available for ingredients. Causes skin irritation.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes eye irritation.
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target organ effects Respiratory system, Eyes, Skin.

Aspiration hazard No information available.

Other information No information available.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Persistence and degradability No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Triphenyl Phosphite 101-02-0	4.98

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

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

Contaminated packaging Do not reuse empty containers.

14. Transport information

Note: This product is not regulated for single or combination packaging having a net quantity of 5L or less.

MEX Regulated

UN number or ID number 3082

UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resin)

Transport hazard class(es) 9

Packing group III

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

TDG

DOT

ICAO (air)

IATA

Regulated

This product is not regulated for single or combination packaging having a net quantity of 5L or less.

UN number or ID number 3082
UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resin)
Transport hazard class(es) 9
Packing group III

IMDG

Regulated

This product is not regulated for single or combination packaging having a net quantity of 5L or less.

UN number or ID number UN 3082
UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resin)
Transport hazard class(es) 9
Packing group III
Marine pollutant P
Marine Pollutant Marine pollutant
EmS-No. F-A, S-F

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.
DSL/NDSL Contact supplier for inventory compliance status.
EINECS/ELINCS Contact supplier for inventory compliance status.
ENCS Contact supplier for inventory compliance status.
IECSC Contact supplier for inventory compliance status.
KECI Contact supplier for inventory compliance status.
PICCS Contact supplier for inventory compliance status.
AIIC Contact supplier for inventory compliance status.
NZIoC 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
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

16. Other information

NFPA	Health hazards 3	Flammability 0	Instability 0	Special hazards -
HMIS	Health hazards 3	Flammability 0	Physical hazards 0	Personal protection X

Chronic Hazard Star Legend

* = Chronic Health Hazard

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

Legend

SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: Exposure controls/personal protection

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

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

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
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)
National Institute of Technology and Evaluation (NITE)
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 Library of Medicine's PubMed database (NLM PUBMED)
U.S. 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

Revision date 14-Feb-2025

Revision Note No information available.

NOM-018-STPS-2015

The information is believed to be accurate, but it is not exhaustive and must be used only as guidance. It is based on the current state of knowledge of the chemical substance or mixture and is applicable to the appropriate safety precautions

for the product.

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



SAFETY DATA SHEET

Revision date 14-Feb-2025

Revision Number 2

1. Identification

Product identifier

Product Name Part B: MetalSet A4

Other means of identification

Product Code(s) FG-10B

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Epoxy Adhesive.

Restrictions on use No information available.

Details of the supplier of the safety data sheet

Manufacturer

Smooth-On, Inc, 5600 Lower Macungie Rd, Macungie, PA 18062, USA, Phone: +01.610.252.5800, www.smooth-on.com, sds@smooth-on.com

E-mail sds@smooth-on.com

Emergency telephone number

Emergency Telephone CHEMTEL +01-813-248-0585

2. Hazard(s) identification

Classification

Acute toxicity - Oral	Category 5 - (H303)
Acute toxicity - Dermal	Category 5 - (H313)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
Reproductive toxicity	Category 1B - (H360)

Label elements

Danger

Hazard statements

H303 - May be harmful if swallowed.

H313 - May be harmful in contact with skin.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

H360 - May damage fertility or the unborn child.



Exclamation mark
 Health hazard
 Corrosion

Precautionary Statements - Prevention

- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
- P264 - Wash face, hands and any exposed skin thoroughly after handling.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves.

Precautionary Statements - Response

P310 - Immediately call a POISON CENTER or doctor.

Eyes

P310 - Immediately call a POISON CENTER or doctor.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.

P363 - Wash contaminated clothing before reuse.

Inhalation

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P310 - Immediately call a POISON CENTER or doctor.

Ingestion

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Precautionary Statements - Storage

P405 - Store locked up.

Precautionary Statements - Disposal

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

Other information

Toxic to aquatic life with long lasting effects.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%
Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine	68082-29-1	20 - 40
Tetraethylenepentamine	112-57-2	3 - <5
Titanium dioxide	13463-67-7	1 - <3
Triethylenetetramine	112-24-3	1 - <3
Diethylenetriamine	111-40-0	0.1 - <1
Bisphenol A	80-05-7	0.1 - <1
Aluminum oxide (Al2O3)	1344-28-1	0.1 - <1

4. First-aid measures

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention. May cause an allergic skin reaction.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination Avoid contact with skin, eyes or clothing Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation Wear personal protective clothing (see section 8)

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. Itching. Rashes. Hives.
Effects of Exposure	May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons. Treat symptomatically.
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5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by skin contact.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective actions for	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

fire-fighters Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

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

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

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 Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits NOM-010-STPS-2014.

Chemical name	Mexico
Titanium dioxide 13463-67-7	VLE-PPT: 10 mg/m ³
Diethylenetriamine 111-40-0	VLE-PPT: 1 ppm *
Aluminum oxide (Al ₂ O ₃) 1344-28-1	VLE-PPT: 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 Tight sealing safety goggles. Face protection shield.

Hand protection Wear suitable gloves Impervious gloves
Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Respiratory protection Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Paste / Gel Liquid
Appearance Paste
Color White
Odor Mild ammonia odor
Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	> 251.667 °C / 485 °F	None known
Evaporation rate	No data available	None known
Flammability	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	< 10 mmHg @ 20 °C / 70 °F	None known
Relative vapor density	> 1.0	None known
Relative density	1.4	None known
Water solubility	Insoluble in water	None known
Solubility in other solvents	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	320,000 centipoise	None known
Dynamic viscosity	No data available	None known

Other information

Oxidizing properties	No information available.
Explosive properties	No information available.
Molecular weight	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Exposure to air or moisture over prolonged periods.
Incompatible materials	Acids. Bases. Oxidizing agent.
Hazardous decomposition products	None known based on information supplied.

11. Toxicological information**Information on likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be harmful in contact with skin.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes. Hives.
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Acute toxicity May be harmful if swallowed. May be harmful in contact with skin.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 2,683.50 mg/kg
 ATEmix (dermal) 2,421.20 mg/kg
 ATEmix (inhalation-dust/mist) 9.35 mg/l

Unknown acute toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine 68082-29-1	-	> 2000 mg/kg (Rat)	-
Tetraethylenepentamine 112-57-2	= 3990 mg/kg (Rat)	= 660 µL/kg (Rabbit)	-
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	= 5.09 mg/L (Rat) 4 h
Triethylenetetramine 112-24-3	= 1716.2 mg/kg (Rat)	= 1720 mg/kg (Rabbit) = 1465.4 mg/kg (Rabbit)	-
Diethylenetriamine 111-40-0	= 1080 mg/kg (Rat)	= 672 mg/kg (Rabbit)	= 70 mg/L (Rat) 4 h
Bisphenol A 80-05-7	= 3300 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 170 mg/m ³ (Rat) 6 h
Aluminum oxide (Al ₂ O ₃) 1344-28-1	> 5000 mg/kg (Rat)	-	-

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

Interactive effects No information available.

Skin corrosion/irritation Classification based on data available for ingredients. Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

Respiratory or skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No information available.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	Mexico
Titanium dioxide 13463-67-7	A3	Group 2B	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

Reproductive toxicity Classification based on data available for ingredients. May damage fertility or the unborn child.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target organ effects Respiratory system, Lungs.

Aspiration hazard No information available.

Other information No information available.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine 68082-29-1	-	LC50: =7.07mg/L (96h, Danio rerio)	-	-
Tetraethylenepentamine 112-57-2	EC50: =2.1mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =420mg/L (96h, Poecilia reticulata)	-	EC50: =24.1mg/L (48h, Daphnia magna)
Triethylenetetramine 112-24-3	EC50: =2.5mg/L (72h, Desmodesmus subspicatus) EC50: =20mg/L (72h, Pseudokirchneriella subcapitata) EC50: =3.7mg/L (96h, Pseudokirchneriella subcapitata)	LC50: =570mg/L (96h, Poecilia reticulata) LC50: =495mg/L (96h, Pimephales promelas)	-	EC50: =31.1mg/L (48h, Daphnia magna)
Diethylenetriamine 111-40-0	EC50: =1164mg/L (72h, Pseudokirchneriella subcapitata) EC50: =345.6mg/L (96h, Pseudokirchneriella subcapitata) EC50: =592mg/L (96h, Desmodesmus subspicatus)	LC50: =248mg/L (96h, Poecilia reticulata) LC50: =1014mg/L (96h, Poecilia reticulata)	-	EC50: =16mg/L (48h, Daphnia magna)
Bisphenol A 80-05-7	EC50: =2.5mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 3.6 - 5.4mg/L (96h, Pimephales promelas) LC50: 4.0 - 5.5mg/L (96h, Pimephales promelas) LC50: =4mg/L (96h, Oncorhynchus mykiss) LC50: =9.9mg/L (96h, Brachydanio rerio)	-	EC50: =10.2mg/L (48h, Daphnia magna) EC50: =3.9mg/L (48h, Daphnia magna) EC50: 9.2 - 11.4mg/L (48h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Tetraethylenepentamine 112-57-2	1
Triethylenetetramine 112-24-3	-1.4
Diethylenetriamine 111-40-0	-1.3
Bisphenol A 80-05-7	3.4

Other adverse effects No information available.

Contains a known or suspected endocrine disruptor.

Chemical name	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances
Bisphenol A	Endocrine disrupting properties	

13. Disposal considerations

Disposal methods

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

Contaminated packaging Do not reuse empty containers.

14. Transport information

- MEX** Not regulated
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** No information available
- TDG** Not regulated
- DOT** Not regulated
- ICAO (air)** Not regulated
- IATA** Not regulated
- IMDG** Not regulated
- RID**
- ADR**

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.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECI	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AIIC	Contact supplier for inventory compliance status.
NZIoC	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
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing and Evaluated Chemical Substances
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- AIIC** - Australian Inventory of Industrial Chemicals
- NZIoC** - New Zealand Inventory of Chemicals

16. Other information

NFPA	Health hazards 3	Flammability 0	Instability 0	Special hazards -
HMIS	Health hazards 3 *	Flammability 0	Physical hazards 0	Personal protection X

Chronic Hazard Star Legend

* = Chronic Health Hazard

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

Legend

- SVHC: Substances of Very High Concern for Authorization:
- PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
- vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
- STOT: Specific Target Organ Toxicity
- ATE: Acute Toxicity Estimate
- LC50: 50% Lethal Concentration
- LD50: 50% Lethal Dose

Legend Section 8: Exposure controls/personal protection

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

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

- Agency for Toxic Substances and Disease Registry (ATSDR)
- U.S. Environmental Protection Agency ChemView Database
- European Food Safety Authority (EFSA)
- 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)
- National Institute of Technology and Evaluation (NITE)
- 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 Library of Medicine's PubMed database (NLM PUBMED)
U.S. 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

Revision date 14-Feb-2025

Revision Note No information available.

NOM-018-STPS-2015

The information is believed to be accurate, but it is not exhaustive and must be used only as guidance. It is based on the current state of knowledge of the chemical substance or mixture and is applicable to the appropriate safety precautions for the product.

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