SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision date 14-Feb-2025 **Revision Number** 3

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Safety data sheet number FG-10A

Product Name Part A: MetalSet A4

Other means of identification

Unique Formula Identifier (UFI) 3W20-J050-900S-JN42

Pure substance/mixture Mixture

Contains Oxirane, 2,2-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer; Aluminum

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Formulated Epoxy Resin

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier
Smooth-On, Inc, 5600 Lower Macungie Rd, Macungie, PA 18062, USA, Phone: +01.610.252.5800, www.smooth-on.com, sds@smooth-on.com
For further information, please contact

E-mail address sds@smooth-on.com

1.4. Emergency telephone number

Emergency Telephone CHEMTEL +01-813-248-0585

Emergency Telephone - §45 - (EC)1272/2008	
Europe	**112**
Austria	01 406 43 43
Belgium	070 245 245
Bulgaria	+359 9154 233
Croatia	+385 1 2348 342
Cyprus	1401
Czech Republic	224 91 92 93 22191 54 02
Denmark	+45 8212 1212
Estonia	16662
Finland	Maksuton Puhelu: 0800 147 111 Normihinta: +358 9 471 977
France	+33 01 45 42 59 59
Germany	112

Greece	(0030) 2107793777
Hungary	+36 80 201 199
Iceland	+354 543 2222
Ireland	01 837 9964 01 809 2566
Italy	06 3054 343
Latvia	+370 (5) 2362052
Liechtenstein	01 406 43 43
Lithuania	+370 5 236 20 52 +370 687 533 78
Luxembourg	(+352) 8002 5500
Netherlands	+31 (0) 88 755 8000
Norway	22 59 13 00
Poland	+48 22 619 66 54
Portugal	+351 800 250 250
Romania	+40 21 599 2300
Slovakia	+421 2 5477 4166
Spain	+34 91 562 04 20
Sweden	112
Switzerland	145
United Kingdom	0344 892 0111

SECTION 2: Hazards identification

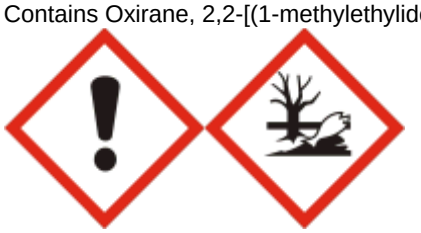
2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2A - (H319)
Skin sensitization	Category 1 - (H317)
Chronic aquatic toxicity	Category 2 - (H411)

2.2. Label elements

Contains Oxirane, 2,2-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer; Aluminum



Signal word
Warning

Hazard statements
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements - EU (§28, 1272/2008)
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P273 - Avoid release to the environment.
P280 - Wear protective gloves and eye/face protection.
P391 - Collect spillage.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Additional information
This product requires child resistant fastenings if supplied to the general public. This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

Toxic to aquatic life.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Oxirane, 2,2-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer 25085-99-8	45 - 70	No data available	-	No data available	-	-	-
Aluminum 7429-90-5	20 - 30	Below import quantity threshold or otherwise exempt	231-072-3 (013-002-00-1)	Flam. Sol. 1 (H228) Water-react. 2 (H261)	-	-	-
Triphenyl Phosphite 101-02-0	5 - 10	Below import quantity threshold or otherwise exempt	202-908-4 (015-105-00-7)	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	Eye Irrit. 2 :: C>=5% Skin Irrit. 2 :: C>=5%	-	-

If “No data available” is reported in the REACH Registration Number column, then the chemical substance is imported in quantities that are below the REACH registration threshold or are otherwise exempt from registration
"Below import reportable quantity threshold or otherwise exempt”

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Aluminum 7429-90-5	No data available	No data available	0.888	No data available	No data available
Triphenyl Phosphite 101-02-0	1590	2000	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. 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. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

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.

4.2. Most important symptoms and effects, both acute and delayed

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

Effects of Exposure No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by skin contact.

5.3. Advice for firefighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1- Recommendations for those who intervene directly
No information available.

6.1.2.- Recommendations for those who do not intervene directly
No information available.

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.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

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

6.3. 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 mechanically, placing in appropriate containers for disposal.

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

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. 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.

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.

7.2. 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.

Storage class (TRGS 510) Storage class 6.1C.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Aluminum 7429-90-5	-	TWA: 10 mg/m³ STEL 20 mg/m³	TWA: 1 mg/m³	TWA: 10.0 mg/m³ TWA: 1.5 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Aluminum 7429-90-5	-	TWA: 10.0 mg/m³	TWA: 5 mg/m³ TWA: 2 mg/m³ STEL: 10 mg/m³ STEL: 4 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³	TWA: 1.5 mg/m³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Aluminum 7429-90-5	TWA: 10 mg/m³ TWA: 5 mg/m³	TWA: 1.25 mg/m³ TWA: 10 mg/m³	TWA: 4 mg/m³ TWA: 1.5 mg/m³	TWA: 10 mg/m³ TWA: 5 mg/m³	TWA: 1 mg/m³
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Aluminum 7429-90-5	TWA: 1 mg/m³ STEL: 3 mg/m³	-	TWA: 1 mg/m³	TWA: 2 mg/m³	TWA: 5 mg/m³ TWA: 2 mg/m³ TWA: 1 mg/m³
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Aluminum 7429-90-5	-	-	-	TWA: 5 mg/m³ STEL: 10 mg/m³	TWA: 2.5 mg/m³ TWA: 1.2 mg/m³
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Aluminum 7429-90-5	TWA: 1 mg/m³	TWA: 3 mg/m³ TWA: 1 mg/m³ STEL: 10 mg/m³ STEL: 3 mg/m³	TWA: 4 mg/m³ TWA: 1.5 mg/m³	-	TWA: 1 mg/m³

Chemical name	Sweden	Switzerland	United Kingdom
Aluminum 7429-90-5	NGV: 5 mg/m³ NGV: 2 mg/m³	TWA: 3 mg/m³ TWA: 10 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 30 mg/m³ STEL: 12 mg/m³

Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Aluminum 7429-90-5	-	Check 60 µg/g Creatinine (urine - Aluminum after end of work day, at the end of a	-	200 µg/L - urine (Aluminum) - at the end of the work shift	-

		work week/end of the shift) (-)			
Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Aluminum 7429-90-5	-	-	-	50 µg/g Creatinine (urine - Aluminum for long-term exposures: at the end of the shift after several shifts) 50 µg/g Creatinine - BAT (for long-term exposures: at the end of the shift after several shifts) urine 15 µg/g Creatinine - BAR (for long-term exposures: at the end of the shift after several shifts) urine	50 µg/g Creatinine (urine - Aluminum for long-term exposures: at the end of the shift after several shifts)

Chemical name	Latvia	Luxembourg	Romania	Slovakia
Aluminum 7429-90-5	-	-	200 µg/L - urine (Aluminum) - end of shift	60 µg/g creatinine (urine - Aluminum not critical)

Chemical name	Slovenia	Spain	Switzerland	United Kingdom
Aluminum 7429-90-5	50 µg/L - urine (Aluminum) - for long-term exposure: at the end of the work shift after several consecutive workdays	-	50 µg/g creatinine (urine - Aluminum after several shifts (for long-term exposures)) 0.21 µmol/mmol creatinine (urine - Aluminum after several shifts (for long-term exposures))	-

Derived No Effect Level (DNEL) - Workers No information available

Derived No Effect Level (DNEL) - General Public No information available.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Aluminum 7429-90-5	-	-	20 mg/L	-	-

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

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

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.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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

Property	**Values**	**Remarks • Method**
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	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	
Flash point	> 148.889 °C / 300 °F	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Water solubility	Insoluble in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapor pressure	No data available	None known
Relative density	1.0 - 1.2	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapor density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Excessive heat.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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. Toxic by inhalation. (based on components).

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). 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

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum	-	-	> 0.888 mg/L (Rat) 4 h
Triphenyl Phosphite	= 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

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 serious 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.

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Triphenyl Phosphite	4.98

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Aluminum	The substance is not PBT / vPvB
Triphenyl Phosphite	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. 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 Do not reuse empty containers.

SECTION 14: Transport information

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

IATA

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

14.4 Packing group III
14.5 Environmental hazards Marine Pollutant
14.6 Special precautions for user
Special Provisions None
Note: This product is not regulated for single or combination packaging having a net quantity of 5L or less.

IMDG
14.1 UN number or ID number UN 3082
14.2 UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resin)

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

14.3 Transport hazard class(es) 9
14.4 Packing group III
14.5 Environmental hazards Marine Pollutant
14.6 Special precautions for user
Special Provisions None
EmS-No. F-A, S-F
14.7 Maritime transport in bulk according to IMO instruments No information available

RID
14.1 UN number or ID number 3082
14.2 UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resin)
14.3 Transport hazard class(es) 9
14.4 Packing group III
14.5 Environmental hazards Marine Pollutant
14.6 Special precautions for user
Special Provisions None
Note: This product is not regulated for single or combination packaging having a net quantity of 5L or less.

ADR
14.1 UN number or ID number 3082
14.2 UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resin)
14.3 Transport hazard class(es) 9
14.4 Packing group III
14.5 Environmental hazards Marine Pollutant
14.6 Special precautions for user
Special Provisions None
Note: This product is not regulated for single or combination packaging having a net quantity of 5L or less.

SECTION 15: Regulatory information

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

National regulations

France
Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Aluminum - 7429-90-5	RG 32 RG 16,RG 16bis

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Aluminum - 7429-90-5	75	-
Triphenyl Phosphite - 101-02-0	75	-

Persistent Organic Pollutants

Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

H2 - ACUTE TOXIC

E2 - Hazardous to the Aquatic Environment in Category Chronic 2

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

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

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

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

Full text of H-Statements referred to under section 3
H228 - Flammable solid
H261 - In contact with water releases flammable gas
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

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		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

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)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
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

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
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

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision date 14-Feb-2025 **Revision Number** 3

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Safety data sheet number FG-10B

Product Name Part B: MetalSet A4

Other means of identification

Unique Formula Identifier (UFI) F030-10UD-M008-7YTV

Pure substance/mixture Mixture

Contains Tetraethylenepentamine; Titanium dioxide; Triethylenetetramine; Diethylenetriamine; Bisphenol A

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Epoxy Adhesive

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier
Smooth-On, Inc, 5600 Lower Macungie Rd, Macungie, PA 18062, USA, Phone: +01.610.252.5800, www.smooth-on.com, sds@smooth-on.com
For further information, please contact

E-mail address sds@smooth-on.com

1.4. Emergency telephone number

Emergency Telephone CHEMTEL +01-813-248-0585

Emergency Telephone - §45 - (EC)1272/2008	
Europe	**112**
Austria	01 406 43 43
Belgium	070 245 245
Bulgaria	+359 9154 233
Croatia	+385 1 2348 342
Cyprus	1401
Czech Republic	224 91 92 93 22191 54 02
Denmark	+45 8212 1212
Estonia	16662
Finland	Maksuton Puhelu: 0800 147 111 Normihinta: +358 9 471 977
France	+33 01 45 42 59 59
Germany	112

Greece	(0030) 2107793777
Hungary	+36 80 201 199
Iceland	+354 543 2222
Ireland	01 837 9964 01 809 2566
Italy	06 3054 343
Latvia	+370 (5) 2362052
Liechtenstein	01 406 43 43
Lithuania	+370 5 236 20 52 +370 687 533 78
Luxembourg	(+352) 8002 5500
Netherlands	+31 (0) 88 755 8000
Norway	22 59 13 00
Poland	+48 22 619 66 54
Portugal	+351 800 250 250
Romania	+40 21 599 2300
Slovakia	+421 2 5477 4166
Spain	+34 91 562 04 20
Sweden	112
Switzerland	145
United Kingdom	0344 892 0111

SECTION 2: Hazards identification

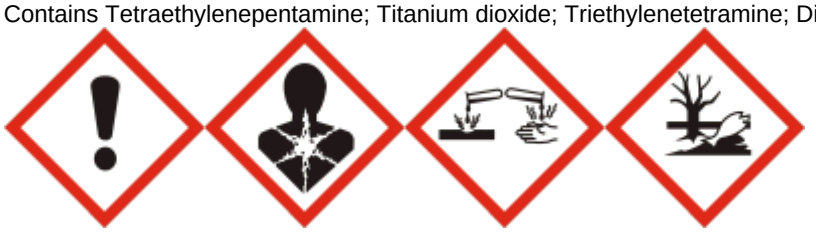
2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
Reproductive toxicity	Category 1B - (H360F)
Chronic aquatic toxicity	Category 2 - (H411)

2.2. Label elements

Contains Tetraethylenepentamine; Titanium dioxide; Triethylenetetramine; Diethylenetriamine; Bisphenol A



Signal word
Danger

Hazard statements
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H360F - May damage fertility.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements - EU (§28, 1272/2008)
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.
P391 - Collect spillage.

Additional information
This product requires child resistant fastenings if supplied to the general public. This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

Toxic to aquatic life.

Endocrine Disruptor Information 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	-

Chemical name	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
Bisphenol A	Endocrine disrupting properties

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Tetraethylenepentamine 112-57-2	1 - 5	Below import reportable quantity threshold or otherwise exempt	203-986-2 (612-060-00-0)	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Aquatic Chronic 2 (H411)	-	-	-
Titanium dioxide 13463-67-7	1 - 5	Below import reportable quantity threshold or otherwise exempt	236-675-5 (022-006-00-2)	Carc. 2 (H351i)	-	-	-
Triethylenetetramine 112-24-3	1 - 5	Below import reportable quantity threshold or otherwise exempt	203-950-6 (612-059-00-5)	Acute Tox. 4 (H312) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Aquatic Chronic 3 (H412)	-	-	-
Diethylenetriamine 111-40-0	0.1 - 1	Below import reportable quantity threshold or otherwise exempt	203-865-4 (612-058-00-X)	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Corr. 1B (H314) Skin Sens. 1 (H317)	-	-	-
Bisphenol A 80-05-7	0.1 - 1	Below import reportable quantity threshold or otherwise	201-245-8 (604-030-00-0)	Eye Dam. 1 (H318) Skin Sens. 1 (H317) Repr. 1B (H360F)	-	1	10

		exempt		STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)			

If “No data available” is reported in the REACH Registration Number column, then the chemical substance is imported in quantities that are below the REACH registration threshold or are otherwise exempt from registration
"Below import reportable quantity threshold or otherwise exempt”

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Tetraethylenepentamine 112-57-2	3990	655.38	No data available	No data available	No data available
Titanium dioxide 13463-67-7	10000	No data available	5.09	No data available	No data available
Triethylenetetramine 112-24-3	1716.2	1720 1465.4	No data available	No data available	No data available
Diethylenetriamine 111-40-0	1080	672	70	No data available	No data available
Bisphenol A 80-05-7	3300	3000	No data available	No data available	No data available

This product contains one or more candidate substance(s) of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Chemical name	CAS No.	SVHC candidates
Bisphenol A	80-05-7	X

SECTION 4: First aid measures

4.1. 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).

4.2. 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.

4.3. 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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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.

5.2. Special hazards arising from the substance or mixture

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.

5.3. Advice for firefighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1- Recommendations for those who intervene directly
No information available.

6.1.2.- Recommendations for those who do not intervene directly
No information available.

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.

For emergency responders Use personal protection recommended in Section 8.

6.2. 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.

6.3. 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 mechanically, placing in appropriate containers for disposal.

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

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. 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.

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.

7.2. 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.

Storage class (TRGS 510) Storage class 6.1C.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Titanium dioxide	-	TWA: 5 mg/m^3	TWA: 10 mg/m^3	TWA: 10.0 mg/m^3	TWA: 10 mg/m^3

13463-67-7		STEL 10 mg/m³			TWA: 4 mg/m³
Diethylenetriamine 111-40-0	-	TWA: 1 ppm TWA: 4 mg/m³ Sh+	TWA: 1 ppm TWA: 4.3 mg/m³ Sk*	TWA: 4.0 mg/m³	TWA: 1 ppm TWA: 4.3 mg/m³ Skin Sensitisation
Bisphenol A 80-05-7	TWA: 2 mg/m³ inhalable fraction TWA: 2 mg/m³	TWA: 2 mg/m³ STEL 5 mg/m³ S+	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³ Skin Sensitisation
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Titanium dioxide 13463-67-7	-	-	TWA: 6 mg/m³ STEL: 12 mg/m³	TWA: 5 mg/m³	-
Triethylenetetramine 112-24-3	-	-	-	TWA: 1 ppm TWA: 6 mg/m³ STEL: 12 mg/m³ S+	-
Diethylenetriamine 111-40-0	-	TWA: 4 mg/m³ Ceiling: 8 mg/m³	TWA: 1 ppm TWA: 4 mg/m³ STEL: 2 ppm STEL: 8 mg/m³ Sk*	TWA: 1 ppm TWA: 4.5 mg/m³ STEL: 2 ppm STEL: 10 mg/m³ Sk* S+	TWA: 1 ppm TWA: 4.3 mg/m³ STEL: 3 ppm STEL: 13 mg/m³ Sk*
Bisphenol A 80-05-7	TWA: 2 mg/m³	TWA: 2 mg/m³ S+ Ceiling: 5 mg/m³	TWA: 2 mg/m³ STEL: 4 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Titanium dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 1.25 mg/m³ TWA: 10 mg/m³	TWA: 0.3 mg/m³ Peak: 2.4 mg/m³	TWA: 10 mg/m³ TWA: 5 mg/m³	-
Triethylenetetramine 112-24-3	-	-	skin sensitizer	-	-
Diethylenetriamine 111-40-0	TWA: 1 ppm TWA: 4 mg/m³ AC+	-	skin sensitizer	TWA: 1 ppm TWA: 4 mg/m³ Sk*	TWA: 1 ppm TWA: 4 mg/m³ STEL: 2 ppm STEL: 8 mg/m³ Sk* sz+
Bisphenol A 80-05-7	TWA: 2 mg/m³	TWA: 2 mg/m³ Sh+	TWA: 5 mg/m³ Peak: 5 mg/m³ photo sensitizer	TWA: 2 mg/m³	TWA: 2 mg/m³
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Titanium dioxide 13463-67-7	TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 30 mg/m³ STEL: 12 mg/m³	-	TWA: 10 mg/m³	TWA: 10 mg/m³	TWA: 5 mg/m³
Triethylenetetramine 112-24-3	-	-	-	-	TWA: 1 ppm TWA: 6 mg/m³ STEL: 2 ppm STEL: 12 mg/m³ J+
Diethylenetriamine 111-40-0	TWA: 1 ppm TWA: 4 mg/m³ STEL: 3 ppm STEL: 12 mg/m³ Sk*	-	TWA: 1 ppm TWA: 4.2 mg/m³ Sk*	-	TWA: 1 ppm TWA: 4.5 mg/m³ STEL: 2 ppm STEL: 10 mg/m³ Sk* J+
Bisphenol A 80-05-7	TWA: 2 mg/m³ STEL: 6 mg/m³ Sens+	TWA: 2 mg/m³ Sk*	-	TWA: 2 mg/m³	TWA: 10 mg/m³ J+
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Titanium dioxide 13463-67-7	-	-	-	TWA: 5 mg/m³ STEL: 10 mg/m³	TWA: 10 mg/m³ STEL: 30 mg/m³

Triethylenetetramine 112-24-3	-	-	-	TWA: 1 ppm TWA: 6 mg/m³ STEL: 3 ppm STEL: 12 mg/m³ A+	TWA: 1 mg/m³ STEL: 3 mg/m³ Sk*
Diethylenetriamine 111-40-0	-	-	-	TWA: 1 ppm TWA: 4 mg/m³ STEL: 3 ppm STEL: 8 mg/m³ Sk* A+	TWA: 4 mg/m³ STEL: 12 mg/m³ Sk*
Bisphenol A 80-05-7	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³ STEL: 4 mg/m³ A+	TWA: 2 mg/m³

Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Titanium dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 10 mg/m³ STEL: 15 mg/m³	TWA: 5 mg/m³	-	TWA: 10 mg/m³
Triethylenetetramine 112-24-3	-	TWA: 1.7 ppm TWA: 10 mg/m³ STEL: 3.3 ppm STEL: 20 mg/m³	-	-	-
Diethylenetriamine 111-40-0	TWA: 1 ppm Sk*	TWA: 0.5 ppm TWA: 2 mg/m³ STEL: 1 ppm STEL: 4 mg/m³ Sk*	-	-	TWA: 1 ppm TWA: 4.3 mg/m³ Sk* Sen+
Bisphenol A 80-05-7	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³ STEL: 2 mg/m³	TWA: 2 mg/m³ Sen+

Chemical name	Sweden	Switzerland	United Kingdom
Titanium dioxide 13463-67-7	NGV: 5 mg/m³	TWA: 3 mg/m³ TWA: 10 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 30 mg/m³ STEL: 12 mg/m³
Triethylenetetramine 112-24-3	NGV: 1 ppm NGV: 6 mg/m³ Vägledande KGV: 2 ppm Vägledande KGV: 12 mg/m³ S+	-	-
Diethylenetriamine 111-40-0	NGV: 1 ppm NGV: 4.5 mg/m³ Vägledande KGV: 2 ppm Vägledande KGV: 10 mg/m³ Sk* S+	TWA: 1 ppm TWA: 4 mg/m³ Sk*	TWA: 1 ppm TWA: 4.3 mg/m³ STEL: 3 ppm STEL: 12.9 mg/m³ Sk*
Bisphenol A 80-05-7	NGV: 2 mg/m³	TWA: 3 mg/m³ S+	TWA: 2 mg/m³ STEL: 6 mg/m³

Biological occupational exposure limits

Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Bisphenol A 80-05-7	-	-	-	80 mg/L - BLW (end of exposure or end of shift) urine	-

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation

Chemical name	Oral	Dermal	Inhalation
Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine 68082-29-1	-	1.1 mg/kg bw/day [4] [6]	3.9 mg/m³ [4] [6]
Diethylenetriamine 111-40-0	-	11.4 mg/kg bw/day [4] [6] 1.1 mg/cm2 [5] [6]	15.4 mg/m³ [4] [6] 92.1 mg/m³ [4] [7] 0.87 mg/m³ [5] [6] 2.6 mg/m³ [5] [7]
Bisphenol A 80-05-7	-	0.031 mg/kg bw/day [4] [6] 0.031 mg/kg bw/day [4] [7]	2 mg/m³ [4] [6] 2 mg/m³ [4] [7] 2 mg/m³ [5] [6] 2 mg/m³ [5] [7]
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)- 77-99-6	-	0.94 mg/kg bw/day [4] [6]	3.3 mg/m³ [4] [6]

Notes

[4] Systemic health effects.
[5] Local health effects.
[6] Long term.
[7] Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine 68082-29-1	0.56 mg/kg bw/day [4] [6]	-	0.97 mg/m³ [4] [6]
Diethylenetriamine 111-40-0	-	4.88 mg/kg bw/day [4] [6] 4.88 mg/kg bw/day [4] [7]	4.6 mg/m³ [4] [6] 27.5 mg/m³ [4] [7]
Bisphenol A 80-05-7	0.004 mg/kg bw/day [4] [6] 0.004 mg/kg bw/day [4] [7]	0.0019 mg/kg bw/day [4] [6] 0.0019 mg/kg bw/day [4] [7]	1 mg/m³ [4] [6] 1 mg/m³ [4] [7] 1 mg/m³ [5] [6] 1 mg/m³ [5] [7]
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)- 77-99-6	0.34 mg/kg bw/day [4] [6]	-	0.58 mg/m³ [4] [6]

Notes

[4] Systemic health effects.
[5] Local health effects.
[6] Long term.
[7] Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine 68082-29-1	0.00434 mg/L	0.0434 mg/L	0.000434 mg/L	-	-
Diethylenetriamine	0.56 mg/L	0.32 mg/L	0.056 mg/L	-	-

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
111-40-0					
Bisphenol A 80-05-7	0.018 mg/L	0.011 mg/L	0.018 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine 68082-29-1	434.02 mg/kg sediment dw	43.4 mg/kg sediment dw	3.84 mg/L	86.78 mg/kg soil dw	-
Diethylenetriamine 111-40-0	1072 mg/kg sediment dw	107.2 mg/kg sediment dw	6 mg/L	7.97 mg/kg soil dw	-
Bisphenol A 80-05-7	1.2 mg/kg sediment dw	0.24 mg/kg sediment dw	320 mg/L	3.7 mg/kg soil dw	-
Aluminum oxide (Al2O3) 1344-28-1	-	-	20 mg/L	-	-

8.2. Exposure controls

Engineering controls No information available.

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.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. 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

Property	Values	Remarks • Method
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	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	
Flash point	> 251.667 °C / 485 °F	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	320,000 centipoise	None known
Dynamic viscosity	No data available	None known
Water solubility	Insoluble in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapor pressure	< 10 mmHg @ 20 °C / 70 °F	None known
Relative density	1.4	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapor density	> 1.0	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Incompatible materials Acids. Bases. Oxidizing agent.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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.

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.

Acute toxicity

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

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Tetraethylenepentamine	= 3990 mg/kg (Rat)	= 660 µL/kg (Rabbit)	-
Titanium dioxide	> 10000 mg/kg (Rat)	-	= 5.09 mg/L (Rat) 4 h

Triethylenetetramine	= 1716.2 mg/kg (Rat)	= 1720 mg/kg (Rabbit) = 1465.4 mg/kg (Rabbit)	-
Diethylenetriamine	= 1080 mg/kg (Rat)	= 672 mg/kg (Rabbit)	= 70 mg/L (Rat) 4 h
Bisphenol A	= 3300 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 170 mg/m³ (Rat) 6 h

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

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	European Union
Titanium dioxide	Carc. 2

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

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	European Union
Bisphenol A	Repr. 1B

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Tetraethylenepentamine	EC50: =2.1mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =420mg/L (96h, Poecilia reticulata)	-	EC50: =24.1mg/L (48h, Daphnia magna)
Triethylenetetramine	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	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	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)

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Tetraethylenepentamine	1
Triethylenetetramine	-1.4
Diethylenetriamine	-1.3
Bisphenol A	3.4

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Titanium dioxide	The substance is not PBT / vPvB
Diethylenetriamine	The substance is not PBT / vPvB
Bisphenol A	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. 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 Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user
Special Provisions None

IMDG

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user
Special Provisions None
14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user
Special Provisions None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

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

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Tetraethylenepentamine - 112-57-2	RG 49,RG 49bis
Triethylenetetramine - 112-24-3	RG 49,RG 49bis
Diethylenetriamine - 111-40-0	RG 49,RG 49bis

Germany

TA Luft (German Air Pollution Control Regulation)

Chemical name	Number	Class
Diethylenetriamine	5.2.5	Class I

Netherlands

Carcinogenic, mutagenic and reproductive toxic effects

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
Bisphenol A	-	-	Fertility Category 1B

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Tetraethylenepentamine - 112-57-2	75	-
Titanium dioxide - 13463-67-7	75	-
Triethylenetetramine - 112-24-3	75	-
Diethylenetriamine - 111-40-0	75	-
Bisphenol A - 80-05-7	30 66 75	-

Persistent Organic Pollutants
Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)
E2 - Hazardous to the Aquatic Environment in Category Chronic 2

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
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

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

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

Full text of H-Statements referred to under section 3
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H351i - Suspected of causing cancer if inhaled
H360F - May damage fertility
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

H411 - Toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects

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		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

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)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
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

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Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
Disclaimer
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End of Safety Data Sheet