

Revision Date: 15.09.2022 Version: 1.2 Print Date: 08.11.2022 Product number: 697328 SECTION 1: Identification of the substance/mixture and of the company/undertaking **1.1 Product identifier** 697328 Product number **AZ Developer** Product name 1.2 Relevant identified uses of the substance or mixture and uses advised against Use of the Sub-: Materials for use in technical applications stance/Mixture 1.3 Details of the supplier of the safety data sheet Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0 Company Responsible Department * e-mail: ELECTRONICS_SDS@merckgroup.com 1.4 Emergency telephone number +49 6151 722440 CHEMTREC International Emergency Telephone Number +1 703-741-5970 [CCN 842835] **SECTION 2: Hazards identification** 2.1 Classification of the substance or mixture Classification (REGULATION (EC) No 1272/2008) Eye irritation, Category 2 H319: Causes serious eye irritation. 2.2 Label elements Labelling (REGULATION (EC) No 1272/2008) Hazard pictograms Signal word Warning 2 Hazard statements H319 Causes serious eye irritation. 1 Precautionary statements : Response: P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

according to Regulation (EC) No. 1907/2006

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2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

:

3.2 Mixtures

Chemical nature

Aqueous solution

Components

Chemical name	CAS-No.	Classification	Concentration
	EC-No.		(% w/w)
	Index-No.		. ,
	Registration number		
Disodium metasilicate	6834-92-0	Acute Tox. 4; H302	>= 3 - < 5
	229-912-9	Skin Corr. 1B; H314	
	014-010-00-8	Eye Dam. 1; H318	
	01-2119449811-37-	STOT SE 3; H335	
	XXXX	(Respiratory system)	
tri-sodium phosphate	7601-54-9	Skin Irrit. 2; H315	>= 1 - < 10
	231-509-8	Eye Irrit. 2; H319	
	01-2119489800-32-	STOT SE 3; H335	
	XXXX	(Respiratory system)	

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled	:	fresh air.
In case of skin contact	:	Take off immediately all contaminated clothing. Rinse skin with water/ shower.
In case of eye contact	:	rinse out with plenty of water. Call in ophthalmologist.
		Remove contact lenses.
If swallowed	:	immediately make victim drink water (two glasses at most). Consult a physician.

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4.2 Most important symptoms a	and e	effects, both acute and delay	ved
Symptoms	:	irritant effects	
		gastric pain Vomiting Drying-out effect resulting in	rough and chapped skin.
4.3 Indication of any immediate	mo	dical attention and special tr	eatment needed
Treatment	:	No information available.	
SECTION 5: Firefighting mea	asur	es	
5.1 Extinguishing media			
Suitable extinguishing media	a :	Use extinguishing measures cumstances and the surroun	that are appropriate to local cir- ding environment.
Unsuitable extinguishing media	:	For this substance/mixture nagents are given.	o limitations of extinguishing
5.2 Special hazards arising from	m the	e substance or mixture	
Specific hazards during fire- fighting	:	Not combustible.	
		Ambient fire may liberate haz	zardous vapours.
5.3 Advice for firefighters			
Special protective equipmen for firefighters	it :		n self-contained breathing appa- y keeping a safe distance or by lothing.
Further information	:	Prevent fire extinguishing wa water or the ground water sy	ater from contaminating surface stem.
		Suppress (knock down) gase spray jet.	es/vapours/mists with a water

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

: Advice for non-emergency personnel:
Do not breathe vapours, aerosols.
Avoid substance contact.
Ensure adequate ventilation.
Evacuate the danger area, observe emergency procedures,
consult an expert.
Advice for emergency responders:
Protective equipment see section 8.

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6.2 Environmental precautions	5	
Environmental precautions	: Prevent further leakage or	r spillage if safe to do so.
6.3 Methods and material for c	ontainment and cleaning up	
Methods for cleaning up	Take up with liquid-absort	d, and pump off spills. I restrictions (see sections 7 and 10). Dent and neutralising material (e.g. Art. No. 101596). Dispose of proper-

ly. Clean up affected area.

6.4 Reference to other sections

For disposal considerations see section 13. For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Observe label precautions.
Hygiene measures	:	Change contaminated clothing. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Store in original container.
Further information on stor- age conditions	:	Tightly closed.
		Risks from decomposition products: see section 10.3
Recommended storage tem- perature	:	If there is a suitable storage temperature range to be complied with, product label contains the relevant information accord- ingly.
7.3 Specific end use(s)		

Specific use(s)	:	Apart from the uses mentioned in section 1.2 no other specific
		uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

according to Regulation (EC) No. 1907/2006

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Substance name	End Use	Exposure routes	Potential health ef- fects	Value
tri-sodium phosphate	Workers	inhalation	Long-term systemic effects	4,07 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment Value	
tri-sodium phosphate	Fresh water	0,05 mg/l
	Marine water	0,005 mg/l
	Aquatic intermittent release	0,5 mg/l
	Sewage treatment plant	50 mg/l

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Personal protective equipment

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled and must meet the specifications of a standard EN/ISO/DIN. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye protection	: Safety glasses		
Hand protection	:		
	splash contact		
	Glove material	:	Nitrile rubber
	Glove thickness	:	0,4 mm
	Break through time	:	10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example:KCL 730 Camatril® -Velours(splash contact) This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Respiratory protection	:	required when vapours/aerosols are generated.
Filter type	:	Filter A-(P2)
Protective measures	:	Protective clothing

Environmental exposure controls

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Water	: Do not flush into surface wa	ter or sanitary sewer system.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	colourless
Odour	:	odourless
Odour Threshold	:	Not applicable
Freezing point	:	No data available
Boiling point/boiling range	:	approximately 100 °C
Flammability	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower	:	No data available
flammability limit Flash point	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
рН	:	ca. 13 (20 °C) Concentration: 100 %
Viscosity Viscosity, dynamic	:	approximately 1 mPas (20 °C)
Viscosity, kinematic	:	No data available
Solubility(ies) Water solubility	:	miscible in all proportions
Solubility in other solvents	:	No data available
Partition coefficient: n-	:	No data available
octanol/water Vapour pressure	:	approximately 23 mbar (20 °C)
Density	:	approximately 1 g/cm3 (20 °C)
Relative vapour density	:	No data available

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9.2 Other information		
Explosives	: Not classified as explosive.	
Oxidizing properties	: none	
Flammability (liquids)	: not combustible	
Evaporation rate	: No data available	

SECTION 10: Stability and reactivity

10.1 Reactivity

Corrosive to metals See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Violent reactions possible with: The generally known reaction partners of water.
10.4 Conditions to avoid		
Conditions to avoid	:	no information available
10.5 Incompatible materials		
Materials to avoid	:	Aluminium
		Zinc

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11: Toxicological information

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

Acute toxicity

Pr	od	uc	t:

Acute oral toxicity	:	Acute Toxicity Estimate (ATE): > 2.000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Symptoms: Possible symptoms:, mucosal irritations
Acute dermal toxicity	÷	No data available
Acute toxicity (other routes of administration)	<u>:</u>	No data available

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Components:		
Disodium metasilicate: Acute oral toxicity	: LD50 (Rat, male and fer GLP: no Remarks: (ECHA)	nale): 1.152 mg/kg
Acute inhalation toxicity	: Assessment: Toxic effect	cts cannot be excluded
Acute dermal toxicity	: LD50 (Rat, male and fer Method: US-EPA GLP: yes Remarks: (ECHA)	nale): > 5.000 mg/kg
tri-sodium phosphate:		
Acute oral toxicity	: LD50 (Rat, female): > 2. Method: OECD Test Gu GLP: yes Assessment: The substa icity	
Acute inhalation toxicity	tion toxicity	nist ideline 403 ance or mixture has no acute inhala- alogy to the following substances:
Acute dermal toxicity	: Assessment: Toxic effect	cts cannot be excluded
Skin corrosion/irritation		
Product: Species Method Result	: Rabbit : OECD Test Guideline 40 : No skin irritation	04
Components:		
Disodium metasilicate: Species Exposure time Method Result GLP Remarks	: Rabbit : 4 h : OECD Test Guideline 40 : Causes burns. : yes : (ECHA)	04

tri-sodium phosphate:

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Result	: Skin irritation	
Serious eye damage/eye	irritation	
Product:		
Species	: Rabbit	_
Method	: OECD Test Guideline 405	5
Result	: Irritating to eyes.	
Components:		
tri-sodium phosphate:		
Species	: Rabbit	
Method	: US-EPA	
Result	: irritating	
Respiratory or skin sensi	tisation	
Product:		
No data available		
Components:		
tri-sodium phosphate:		
Test Type	: Sensitisation test:	
Exposure routes	: dermal	
Species	: Mouse	
Method	: OECD Test Guideline 429)
Result GLP	: negative : yes	
	gy to the following substances: sc	odium dihydrogen phosphate
Germ cell mutagenicity		
Product:		
Genotoxicity in vitro	: No data available	
Genotoxicity in vivo	: No data available	
Carcinogenicity		
Product:		
No data available		
Reproductive toxicity		
Product:		
Effects on fertility	: No data available	
Effects on foetal develop-	: No data available	
ment		

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STOT - single exposure		
Product:		
No data available		
Components:		
Disodium metasilicate:		
Target Organs	: Respiratory system	
Assessment	: May cause respiratory irrita	tion.
tri-sodium phosphate:		
Assessment	: May cause respiratory irrita	tion.
STOT - repeated exposure		
Product:		
No data available		
Repeated dose toxicity		
Product:		
No data available		
Aspiration toxicity		
Product:		
No data available		
11.2 Information on other haza	rds	
Endocrine disrupting prop	perties	
Product:		
Assessment	ered to have endocrine disr REACH Article 57(f) or Con	s not contain components consid- upting properties according to nmission Delegated regulation sion Regulation (EU) 2018/605 at
Further information		
Product:		
Remarks	: The toxicological data has t composition.	been taken from products of similar
Remarks	: Possible symptoms:	
Remarks	: gastric pain Vomiting Drying-out effect resulting in	n rough and chapped skin.

according to Regulation (EC) No. 1907/2006

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Remarks	: Other dangerous properties Handle in accordance with g practice.	can not be excluded. Jood industrial hygiene and safety

SECTION 12: Ecological information

12.1 Toxicity

Product:		
No data available		
Components:		
Disodium metasilicate:		
Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 210 mg/l Exposure time: 96 h Test Type: semi-static test Analytical monitoring: no Method: ISO 7346/1 GLP: no Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	:	(Daphnia magna (Water flea)): 1.700 mg/l Exposure time: 48 h Test Type: static test Method: Regulation (EC) No. 440/2008, Annex, C.2 GLP: yes Remarks: (ECHA)
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 345,4 mg/l Exposure time: 72 h Test Type: Growth inhibition Method: DIN 38412 part 9 GLP: yes Remarks: (ECHA)
Toxicity to microorganisms	:	(activated sludge): > 100 mg/l Exposure time: 3 h Test Type: Respiration inhibition Analytical monitoring: no Method: OECD Test Guideline 209 GLP: yes Remarks: (ECHA)
tri-sodium phosphate:		
Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h

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	Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes	
Toxicity to daphnia and other aquatic invertebrates	 EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes 	
Toxicity to algae/aquatic plants	 NOEC (Desmodesmus subspicatus (green algae)) Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes 	: > 100 mg/l
	EC50 (Desmodesmus subspicatus (green algae)): Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes	> 100 mg/l
12.2 Persistence and degradabi	ty	
<u>Product:</u> No data available <u>Components:</u>		
tri-sodium phosphate: Biodegradability	: Remarks: The methods for determining the biologi dability are not applicable to inorganic substances	
12.3 Bioaccumulative potential		
<u>Product:</u> No data available <u>Components:</u>		
tri-sodium phosphate:		

tri-sodium phosphate:

Partition coefficient: n- : Remarks: Not applicable for inorganic substances octanol/water

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12.4 Mobility in soil		
No data available		
12.5 Results of PBT and vPvB	assessment	
Product: Assessment	to be either persistent, bioa	ntains no components considered accumulative and toxic (PBT), or baccumulative (vPvB) at levels of
Components:		
tri-sodium phosphate: Assessment	: PBT/vPvB: Not applicable 1	or inorganic substances
12.6 Endocrine disrupting pro	perties	
Product:		

	—
Assessment	: The substance/mixture does not contain components consid-
	ered to have endocrine disrupting properties according to
	REACH Article 57(f) or Commission Delegated regulation
	(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at
	levels of 0.1% or higher.

12.7 Other adverse effects

Additional ecological infor-	:	Discharge into the environment must be avoided.
mation		

SECTION 13: Disposal considerations

13.1 Waste treatment methods		
Product	:	Waste should not be disposed of by release to sewers.

SECTION 14: Transport information

Not classified as dangerous in the meaning of transport regulations.

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SECTION 15: Regulato	ry information		
15.1 Safety, health and e ture	nvironmental regulations/legisla	tion	specific for the substance or mix-
	on the manufacture, placing on certain dangerous substances, (Annex XVII)	:	Conditions of restriction for the fol- lowing entries should be considered: Number on list 3
REACH - Candidate L Concern for Authorisa	ist of Substances of Very High tion (Article 59).	:	Not applicable
Regulation (EC) No 1 plete the ozone layer	005/2009 on substances that de-	:	Not applicable
Regulation (EU) 2019 tants (recast)	/1021 on persistent organic pollu-	:	Not applicable

REACH - List of substances subject to authorisation : Not applicable (Annex XIV)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Storage class (TRGS 510) : 10 - 13, Other liquids and solids

Other regulations:

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Full text of H-Statements

H302 :	Harmful if swallowed.
H314 :	Causes severe skin burns and eye damage.
H315 :	Causes skin irritation.
H318 :	Causes serious eye damage.
H319 :	Causes serious eye irritation.
H335 :	May cause respiratory irritation.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation

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STOT SE	: Specific target organ toxi	icity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response: GHS - Globally Harmonized System: GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIOC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations: vPvB - Verv Persistent and Very Bioaccumulative

Further information

Decimal notation: "Thousands" places are identified with a dot (example: 2.000 mg/kg means "two thousand mg/kg"). Decimal places are identified with a comma (example: 1,35 g/cm3).

Revision Note Safety datasheet sections : C which have been updated

: General revision

Classification of the mixture:

Classification procedure:

according to Regulation (EC) No. 1907/2006

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Eye Irrit. 2	H319	Based on product data or assessment

Disclaimer

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product. This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

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