

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Aluminium activator

Revision date: 16.03.2021

Product code: DG-002

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

1.1. Product identifier

Aluminium activator

UFI: E110-8026-700M-SWTV

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

Use of the substance/mixture

Zinc plating of aluminium and its alloys for subsequent further plating

Uses advised against

Other uses than those specified in section 1.2 of this safety data sheet are not recommended.

1.3. Details of the supplier of the safety data sheet

Company name:	Dr. Galva Thomas Henning
Street:	Jungholzstraße 7A
Place:	D-76726 Germersheim
Telephone:	+49 7274 – 907 91 27
e-mail:	info@drgalva.com
Internet:	www.drgalva.com

1.4. Emergency telephone number:

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department or the NHS enquiry service.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Substance or mixture corrosive to metals: Met. Corr. 1

Skin corrosion/irritation: Skin Corr. 1

Serious eye damage/eye irritation: Eye Dam. 1

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

May be corrosive to metals.

Causes severe skin burns and eye damage.

Causes serious eye damage.

Harmful to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

sodium hydroxide; caustic soda

Signal word: Danger

Pictograms:



Hazard statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H412	Harmful to aquatic life with long lasting effects.

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Precautionary statements

P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P260	Do not breathe dust/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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/doctor.
P501	Dispose of contents/container according to regional/national regulations. Do not discard with household waste.

2.3. Other hazards

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

SECTION 3: Composition/information on ingredients
3.2. Mixtures
Hazardous components

CAS No	Chemical name	Quantity
	EC No	Index No
		REACH No
	GHS Classification	
1310-73-2	sodium hydroxide; caustic soda	10 - < 15 %
	215-185-5	011-002-00-6
		01-2119457892-27
	Met. Corr. 1, Skin Corr. 1A, Eye Dam. 1; H290 H314 H318	
1314-13-2	zinc oxide	1 - < 5 %
	215-222-5	030-013-00-7
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410	
7758-98-7	copper sulphate	< 1 %
	231-847-6	029-004-00-0
		01-2119520566-40
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Aquatic Acute 1, Aquatic Chronic 1; H302 H315 H319 H400 H410	

Full text of H and EUH statements: see section 16.

Specific concentration limits and M-factors

CAS No	EC No	Chemical name	Quantity
		Specific concentration limits and M-factors	
1310-73-2	215-185-5	sodium hydroxide; caustic soda	10 - < 15 %
		Skin Corr. 1A; H314: $\geq 5 - 100$ Skin Corr. 1B; H314: $\geq 2 - < 5$ Skin Irrit. 2; H315: $\geq 0,5 - < 2$ Eye Irrit. 2; H319: $\geq 0,5 - < 2$	

Further Information

The percentages of the ingredients not listed here are all below the level of consideration.

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

In case of troubles or persistent symptoms, consult an doctor/physician.

Remove persons from danger area and lie them down. Never orally infuse something to an unconscious person.

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No special first aid measures necessary. A vomiting, supine person must be brought into recovery position.

After inhalation

Provide fresh air. In case of respiratory tract irritation, consult a physician.

In case of irregular breathing or respiratory arrest, perform artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Call a doctor. Change contaminated clothing. Wash contaminated clothing before reuse.

After contact with eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. Call a physician immediately. Protect uninjured eye.

After ingestion

Rinse mouth, spit liquid again. Do NOT induce vomiting. Let water be drunken in little sips (dilution effect). Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

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

Causes severe skin burns and eye damage.

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

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

Carbon dioxide (CO₂). Extinguishing powder. Atomized water. Foam.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Upon exposure to fire, harmful gases may be emitted.

5.3. Advice for firefighters

Co-ordinate fire-fighting measures to the fire surroundings. Wear a self-contained breathing apparatus and chemical protective clothing.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Wear suitable protective clothing.

Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

Remove material mechanically. Treat the recovered material as prescribed in the section on waste disposal.

Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

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7.1. Precautions for safe handling
Advice on safe handling

Personal precautions: refer to section 8 Persons with a history of skin sensitisation problems should not be employed in any process in which this product is used.

Provide adequate ventilation, especially in confined areas.

Further information on handling

Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels

Store only in original container. Keep container tightly closed in a cool, well-ventilated place.

Protect from heat/overheating.

Store separately from oxidizing agents.

Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

Zinc plating of aluminium and its alloys for subsequent further plating

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
7440-50-8	Copper, fume	-	0.2		TWA (8 h)	WEL
1310-73-2	Sodium hydroxide	-	2		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
1314-13-2	zinc oxide			
Consumer DNEL, long-term		oral		0,83 mg/kg bw/day
Consumer DNEL, long-term		dermal		83,3 mg/kg bw/day
Worker DNEL, long-term		dermal		83,3 mg/kg bw/day
Consumer DNEL, long-term		inhalation		2,5 mg/m ³
Worker DNEL, long-term		inhalation		5 mg/m ³

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PNEC values

CAS No	Substance	Value
Environmental compartment		
1314-13-2	zinc oxide	
Freshwater		0,021 mg/l
Marine water		0,006 mg/l
Freshwater sediment		117,8 mg/kg
Marine sediment		56,5 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,052 mg/l
Soil		35,6 mg/kg

8.2. Exposure controls

Protective and hygiene measures

Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

Eye/face protection

Tightly sealed safety glasses.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Skin protection

The design of personal protective equipment must be selected specifically for the job, depending on the concentration and quantity of hazardous substances. The chemical resistance of the protective agents should be clarified with their suppliers.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Protective respiration apparatus not using surrounding air (breathing apparatus) (DIN EN 133).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	dark blue
Odour:	characteristic
pH-Value (at 20 °C):	14

Changes in the physical state

Melting point:	no data available
Initial boiling point and boiling range:	100 °C
Flash point:	not applicable

Flammability

Solid:	no data available
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Explosive properties

not Explosive.

Lower explosion limits:	no data available
Upper explosion limits:	no data available

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Ignition temperature:	no data available
Auto-ignition temperature	
Solid:	no data available
Decomposition temperature:	no data available
Oxidizing properties	
no data available	
Density:	1,1-1,2 g/cm ³
Bulk density:	no data available
Water solubility:	no data available
Solubility in other solvents	
no data available	
Partition coefficient:	no data available
Viscosity / dynamic:	no data available
Viscosity / kinematic:	no data available

9.2. Other information

no data available

SECTION 10: Stability and reactivity
10.1. Reactivity

Substances or mixtures corrosive to metals

10.2. Chemical stability

The product is stable under normal environmental conditions (room temperature).

10.3. Possibility of hazardous reactions

Protect against heat and direct solar irradiation. Protect against contaminations.

10.4. Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

10.5. Incompatible materials

Oxidising substances

10.6. Hazardous decomposition products

 In case of fire hazardous decomposition products may be formed.
 Carbon dioxide (CO₂). Carbon monoxide. Nitrogen oxides (NO_x).

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1314-13-2	zinc oxide				
	oral	LD50 > 5000 mg/kg	Rat		
7758-98-7	copper sulphate				
	oral	ATE 500 mg/kg			

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Irritation and corrosivity

Causes severe skin burns and eye damage.
Causes serious eye damage.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.
If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

SECTION 12: Ecological information
12.1. Toxicity

Harmful to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
1314-13-2	zinc oxide					
	Acute fish toxicity	LC50 mg/l	1,31	96 h	Oncorhynchus mykiss (Rainbow trout)	
	Acute algae toxicity	ErC50 mg/l	0,21	72 h	Pseudokirchneriella subcapitata	
	Acute crustacea toxicity	EC50	2,2 mg/l	48 h	Daphnia magna	
	Algae toxicity	NOEC mg/l	0,04		Pseudokirchneriella subcapitata	

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Disposal recommendations

Disposal according to official regulations.
Consult the local waste disposal expert about waste disposal. According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the

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substance itself.

SECTION 14: Transport information
Land transport (ADR/RID)

14.1. UN number: UN 1719
14.2. UN proper shipping name: CAUSTIC ALKALI LIQUID, N.O.S. (sodium hydroxide; caustic soda)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8



Classification code: C5
 Special Provisions: 274
 Limited quantity: 1 L
 Excepted quantity: E2
 Transport category: 2
 Hazard No: 80
 Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number: UN 1719
14.2. UN proper shipping name: CAUSTIC ALKALI LIQUID, N.O.S. (sodium hydroxide; caustic soda)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8



Classification code: C5
 Special Provisions: 274
 Limited quantity: 1 L
 Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number: UN 1719
14.2. UN proper shipping name: CAUSTIC ALKALI LIQUID, N.O.S. (sodium hydroxide; caustic soda)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8



Special Provisions: 274
 Limited quantity: 1 L
 Excepted quantity: E2
 EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1719

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14.2. UN proper shipping name: CAUSTIC ALKALI LIQUID, N.O.S. (sodium hydroxide; caustic soda)

14.3. Transport hazard class(es): 8

14.4. Packing group: II

Hazard label: 8



Special Provisions: A3 A803

Limited quantity Passenger: 0.5 L

Passenger LQ: Y840

Excepted quantity: E2

IATA-packing instructions - Passenger: 851

IATA-max. quantity - Passenger: 1 L

IATA-packing instructions - Cargo: 855

IATA-max. quantity - Cargo: 30 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No special precautions known.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3

Information according to 2012/18/EU Not subject to 2012/18/EU (SEVESO III)

(SEVESO III):

Additional information

Regulation (EC) No. 1907/2006 (REACH)

Regulation (EC) No. 648/2004 (Detergents regulation): not applicable

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer: not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants: not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council concerning the export and import of dangerous chemicals: This mix contains no chemicals that are subject to the export notification procedures (annex 1).

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none

This mixture contains the following substances of very high concern (SVHC) which are subject to authorisation according to Annex XIV of REACH: none

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

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sodium hydroxide; caustic soda
copper sulphate

SECTION 16: Other information

Changes

Version 1,00 - 16.03.2021 - first creation

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 BImSchV (Fed.Imm.Prot.Act): Directive on the Implementation of the Federal Immission Protection Act
 CAS: Chemical Abstracts Service
 DIN: Norm of the Deutsche Institut für Normung (German Institute for Standardization)
 EC: Effective Concentration
 EG: European Community (Europäische Gemeinschaft)
 EN: European Norm
 IATA: International Air Transport Association
 IBC Code: International Code for the Construction and Equipment of ships carrying Dangerous Chemicals in Bulk
 ICAO: International Civil Aviation Organization
 IMDG: International Maritime Code for Dangerous Goods
 ISO: Norm of the International Standards Organization
 CLP: Classification, Labeling, Packaging
 IUCLID: International Uniform Chemical Information Database
 LC: Lethal concentration
 LD: Lethal dose
 log Kow: Octanol/water partition coefficient
 MARPOL: Maritime Pollution Convention = Convention for the Prevention of Maritime Pollution from Ships
 OECD: Organisation for Economic Co-operation and Development
 PBT: Persistent, bio-cumulative, toxic
 RID: Regulation Concerning the International Transport of Dangerous Goods by Rail
 TRGS: Technische Regeln für Gefahrstoffe
 UN: United Nations
 VOC: Volatile Organic Compounds
 vPvB: very persistent and very bio-cumulative
 VwVwS: Administrative Regulation for Water Pollutants
 WGK: German Water Hazard Class
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 DNEL: Derived No Effect Level
 PNEC: Predicted No Effect Concentration
 TLV: Threshold Limiting Value
 STOT: Specific Target Organ Toxicity

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H290 May be corrosive to metals.

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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.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

The information given in this safety data sheet is to describe the product's safety regulations. It is not for guaranteeing certain characteristics and is based on today's knowledge. The safety data sheet was generated upon information of pre-suppliers by:

asses AG, Ottostraße 1, 63741, Aschaffenburg, Germany

Phone: +49 (0)6021 - 1 50 86-0, Fax: +49 (0)6021 - 1 50 86-77, E-Mail: eu-sds@asses.eu, www.asses.eu

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)