Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.08.2015 *Version number 302* *Revision: 14.08.2015*

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

· **1.1 Product identifier**

· **Trade name: Zink-Ausbesserungs-Spray (Zink-Alu-Spray)**

· **Article number:** -
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Sector of Use**
SU21 Consumer uses: Private households / general public / consumers
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
· **Application of the substance / the mixture** Coating material

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Klostermann Chemie GmbH & Co. KG
von-dem-Bussche-Münch-Str. 4
32339 Espelkamp

Tel.: 05772/6711
Fax: 05772/6799

www.klostermann-chemie.de
E-Mail: info@klostermann-chemie.de

· **Further information obtainable from:** Product safety department
· **1.4 Emergency telephone number:**
Poison Control Center Mainz - 24 hour emergency service – phone: +49 (0) 6131/19240

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

GHS02 flame

Flam. Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.

GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS02 GHS07 GHS09

· **Signal word** Danger
· **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
H319 Causes serious eye irritation.

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H411 Toxic to aquatic life with long lasting effects.

· ***Precautionary statements***

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251 Do not pierce or burn, even after use.
P211 Do not spray on an open flame or other ignition source.
P271 Use only outdoors or in a well-ventilated area.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***Additional information:***

EUH066 Repeated exposure may cause skin dryness or cracking.
Contains 2-butanone oxime. May produce an allergic reaction.
Buildup of explosive mixtures possible without sufficient ventilation.

· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.

SECTION 3: Composition/information on ingredients

· ***3.2 Chemical characterisation: Mixtures***
· ***Description:*** Mixture of substances listed below with nonhazardous additions.

· ***Dangerous components:***

CAS: 141-78-6 EINECS: 205-500-4 Reg.nr.: 01-2119475103-46-xxxx	ethyl acetate Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	10-25%
CAS: 74-98-6 EINECS: 200-827-9 Reg.nr.: 01-2119486944-21-xxxx	propane Flam. Gas 1, H220; Press. Gas C, H280	10-25%
CAS: 106-97-8 EINECS: 203-448-7 Reg.nr.: 01-2119474691-32-xxxx	butane Flam. Gas 1, H220; Press. Gas C, H280	10-25%
CAS: 75-28-5 EINECS: 200-857-2 Reg.nr.: 01-2119485395-27-xxxx	isobutane Flam. Gas 1, H220; Press. Gas C, H280	10-25%
CAS: 67-64-1 EINECS: 200-662-2 Reg.nr.: 01-2119471330-49	acetone Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	10-25%
CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119486136-34	xylene Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	2.5-10%
CAS: 7429-90-5 EINECS: 231-072-3 Reg.nr.: 01-2119529243-45	aluminium powder (stabilised) Flam. Sol. 1, H228	2.5-10%
CAS: 64742-95-6 EINECS: 265-199-0 Reg.nr.: 01-2119455851-35-xxxx	Solvent naphtha (petroleum), light arom. Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335-H336	2.5-10%

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CAS: 7440-66-6 EINECS: 231-175-3 Reg.nr.: 01-2119467174-37	zinc powder -zinc dust (stabilized) Aquatic Acute 1, H400; Aquatic Chronic 1, H410	<2.5%
CAS: 64742-82-1 EC number: 919-446-0 Reg.nr.: 01-2119458049-33-xxxx	Naphtha (petroleum), hydrodesulfurized heavy Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336	<2.5%
CAS: 78-78-4 EINECS: 201-142-8	isopentane Flam. Liq. 1, H224; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336	< 1%
CAS: 96-29-7 EINECS: 202-496-6 Reg.nr.: 01-2119539477-28-xxxx	2-butanone oxime Carc. 2, H351; Eye Dam. 1, H318; Acute Tox. 4, H312; Skin Sens. 1, H317	< 1%

· ***Regulation (EC) No 648/2004 on detergents / Labelling for contents***

aliphatic hydrocarbons	< 5%

· ***Additional information:*** *For the wording of the listed risk phrases refer to section 16.*

SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information:*** *Immediately remove any clothing soiled by the product.*
· ***After inhalation:***
Supply fresh air.
Seek medical treatment in case of complaints.
· ***After skin contact:***
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· ***After eye contact:*** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
· ***After swallowing:*** *Rinse out mouth and then drink plenty of water.*
· ***4.2 Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***4.3 Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:***
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· ***For safety reasons unsuitable extinguishing agents:*** *Water with full jet*
· ***5.2 Special hazards arising from the substance or mixture*** *Can form explosive gas-air mixtures.*
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Wear self-contained respiratory protective device.*
· ***Additional information***
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
· ***6.2 Environmental precautions:***
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
· ***6.3 Methods and material for containment and cleaning up:*** *Ensure adequate ventilation.*

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· ***6.4 Reference to other sections***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling*** *Use only in well ventilated areas.*
· ***Information about fire - and explosion protection:***

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.
Do not spray onto a naked flame or any incandescent material.
Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:***
Store in a cool location.
Observe official regulations on storing packagings with pressurised containers.
· ***Information about storage in one common storage facility:*** *Store away from oxidising agents.*
· ***Further information about storage conditions:*** *None.*
· ***7.3 Specific end use(s)*** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· ***Additional information about design of technical facilities:*** *No further data; see item 7.*

· ***8.1 Control parameters***

· ***Ingredients with limit values that require monitoring at the workplace:***	
141-78-6 ethyl acetate	
WEL	*Short-term value: 400 ppm* *Long-term value: 200 ppm*
106-97-8 butane	
WEL	*Short-term value: 1810 mg/m³, 750 ppm* *Long-term value: 1450 mg/m³, 600 ppm* *Carc (if more than 0.1% of buta-1.3-diene)*
67-64-1 acetone	
WEL	*Short-term value: 3620 mg/m³, 1500 ppm* *Long-term value: 1210 mg/m³, 500 ppm*
1330-20-7 xylene	
WEL	*Short-term value: 441 mg/m³, 100 ppm* *Long-term value: 220 mg/m³, 50 ppm* *Sk; BMGV*

· ***Ingredients with biological limit values:***	
1330-20-7 xylene	
BMGV	*650 mmol/mol creatinine* *Medium: urine* *Sampling time: post shift* *Parameter: methyl hippuric acid*

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· ***Additional information:*** *The lists valid during the making were used as basis.*

· ***8.2 Exposure controls***
· ***Personal protective equipment:***
· ***General protective and hygienic measures:***
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
· ***Respiratory protection:***
Use suitable respiratory protective device in case of insufficient ventilation.
Short term filter device:
Filter AX/P2
· ***Protection of hands:***

Protective gloves

· ***Material of gloves***
Butyl rubber, BR
Recommended thickness of the material: ≥ 0.4 mm
· ***Penetration time of glove material***
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***Eye protection:***

Tightly sealed goggles

· ***Body protection:*** *Protective work clothing*

SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***	
· ***General Information***	
· ***Appearance:***	
Form:	*Aerosol*
Colour:	*Grey*
· ***Odour:***	*Acetone-like*
· ***Odour threshold:***	*Not determined.*
· ***pH-value:***	*Not determined.*
· ***Change in condition***	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*Not applicable, as aerosol.*
· ***Flash point:***	*Not applicable, as aerosol.*
· ***Flammability (solid, gaseous):***	*Not applicable.*
· ***Ignition temperature:***	*365 °C*
· ***Decomposition temperature:***	*Not determined.*
· ***Self-igniting:***	*Product is not selfigniting.*
· ***Danger of explosion:***	*Not determined.*
· ***Explosion limits:***	
Lower:	*1.5 Vol %*

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Upper:	13.0 Vol %
· **Vapour pressure at 20 °C:**	4200 hPa
· **Density at 20 °C:**	0.68 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with water:**	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
VOC (EC) %	90.23 %
VOC (EC) g/l	614.3 g/l
VOCV (CH)	90.23 %
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity**

· **LD/LC50 values relevant for classification:**

64742-95-6 Solvent naphtha (petroleum), light arom.		
Oral	LD50	>6800 mg/kg (rat)
Dermal	LD50	>3400 mg/kg (rab)
Inhalative	LC50/4h	>10.2 mg/l (rat)
64742-82-1 Naphtha (petroleum), hydrodesulfurized heavy		
Oral	LD50	>15000 mg/kg (rat) (OECD 401)
Dermal	LD50	~3400 mg/kg (rat) (OECD 402)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** 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.

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· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Toxic for fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Toxic for aquatic organisms
Also poisonous for fish and plankton in water bodies.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
Containers can be recycled if completely empty; if not, dispose product/containers as dangerous waste.
Observe local regulations.

· **European waste catalogue**	
15 01 04	metallic packaging
16 05 04*	gases in pressure containers (including halons) containing dangerous substances

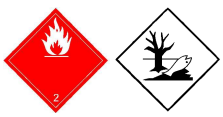
SECTION 14: Transport information

· **14.1 UN-Number**
· **ADR, IMDG, IATA** UN1950

· **14.2 UN proper shipping name**
· **ADR** UN1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS
· **IMDG, IATA** AEROSOLS

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class** 2 5F Gases.

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· **Label**	2.1
· **IMDG, IATA**	
	
· **Class**	2 Gases.
· **Label**	2.1
· **14.4 Packing group**	
· **ADR**	Void
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **Special marking (ADR):**	Symbol (fish and tree)
· **14.6 Special precautions for user**	Warning: Gases.
· **EMS Number:**	F-D,S-U
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **Transport category**	2
· **Tunnel restriction code**	D
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **UN "Model Regulation":**	UN 1950 AEROSOLS, 2.1, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.
· **Exposure scenario(s)**
Exposure scenario(s) of ingredients (if present) are available on request at:
info@klostermann-chemie.de

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H220 Extremely flammable gas.
H224 Extremely flammable liquid and vapour.
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H228 Flammable solid.
H280 Contains gas under pressure; may explode if heated.

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H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
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.

· ***Department issuing MSDS:*** *Product safety department*
· ***Contact:*** *Head of Product Safety Department*
· ***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)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOCV: Lenkungsabgabe auf flüchtigen organischen Verbindungen, Schweis (Swiss Ordinance on volatile organic compounds)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Gas 1: Flammable gases, Hazard Category 1
Flam. Aerosol 1: Flammable aerosols, Hazard Category 1
Press. Gas C: Gases under pressure: Compressed gas
Flam. Liq. 1: Flammable liquids, Hazard Category 1
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Flam. Liq. 3: Flammable liquids, Hazard Category 3
Flam. Sol. 1: Flammable solids, Hazard Category 1
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Carc. 2: Carcinogenicity, Hazard Category 2
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
Asp. Tox. 1: Aspiration hazard, Hazard Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2