SAFETY DATA SHEET

according to regulation (EC) No 1907/2006 (REACH) and 1272/2008/EC

Trade name: **Zinc repairs**

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

1.1. Product identifier:

Zinc repairs

UFI: V8MT-4AR1-S425-82A1

Article number: 2362970

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

Relevant identified uses: Zinc dust repair spray. Use by professional workers. Consumer use.

Uses advised against: application other than the above.

1.3. Details of the supplier of the safety data sheet:

Distributor Details:
OBO Bettermann Produktion Deutschland GmbH & Co. KG
Hüingser Ring 52, 58710 Menden (Sauerland), Germany
Tel.: +49 2373 890
Fax: +49 2373 89238
E-mail: info@obo.de

Responsible for SDS:
OBO Bettermann Produktion Deutschland GmbH & Co. KG
Hüingser Ring 52, 58710 Menden (Sauerland), Germany
Tel.: +49 2373 890
Fax: +49 2373 89238
E-mail: info@obo.de

1.4. Emergency telephone number

REACH Registration of Chemicals GmbH
Tel.: +49 (0)700 24112112 (OBO)
Tel.: +1 872 5888271 (OBO)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Hazard Class and Category:	Hazard statement:	
Aerosol 1	H222	Extremely flammable aerosol
Aerosol 1	H229	Pressurised container: May burst if heated.
Eye Irrit. 2	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

2.2. Label elements

Product identification: Trade name: **Zinc repairs**

Hazardous components: Acetone; Naphtha (petroleum), hydrotreated heavy; Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics.

GHS Pictogram:

Signal word: **Danger**

Hazard statement:

H222	Extremely flammable aerosol
H229	Pressurised container: May burst if heated.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Supplemental hazard information: -

Precautionary statements – General:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.

Precautionary statements – Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P260	Do not breathe mist, vapours and spray.
P280	Wear protective gloves, eye protection.

Precautionary statements – Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statements – Storage:

P405	Store locked up.
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F.

Precautionary statements – Disposal:
P501 Dispose of contents/container in accordance with national regulation.

Other liabilities for labelling:
Tactile warning of danger and child-resistant fastening: Not required.
Transport classification: see section 14.

2.3. Other hazards
Formation of explosive vapour/gas/air mixture is possible.
The product does not contain any PBT or vPvB substance according to annex XIII of regulation (EC) 1907/2006.
The product does not contain any substance with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Chemical description: Mixtures of the following substances and non-hazardous substances with propellant gas.

Component(s) / Hazardous component(s):

Name	EC number	CAS number	Hazard classes and cat.	Hazard statements	Conc. % (m/m)
Acetone REACH Registr. Nr.: 01-2119471330-49	200-662-2	67-64-1	Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	H225 H319 H336	25-50
Butane* REACH Registr. Nr.: 01-2119474691-32	203-448-7	106-97-8	Flam. Gas 1 Press. Gas	H220 H280	10-25
Propane REACH Registr. Nr.: 01-2119486944-21	200-827-9	74-98-6	Flam. Gas 1 Press. Gas	H220 H280	10-25
Naphtha (petroleum), hydrotreated heavy REACH Registr. Nr.: 01-2119486659-16	265-150-3	64742-48-9	Flam. Liq. 3 Asp. Tox. 1 STOT SE 3 Aquatic Chronic 3	H226 H304 H336 H412	2,5-10
Aluminum powder (stabilized) REACH Registr. Nr.: 01-2119529243-45	231-072-3	7429-90-5	Flam. Sol. 1 Water-react. 2	H228 H261	<5,0

Name	EC number	CAS number	Hazard classes and cat.	Hazard statements	Conc. % (m/m)
Reaction mass of ethylbenzene and xylene REACH Registr. Nr.: 01-2119539452-40	905-588-0	-	Flam. Liq. 3 Asp. Tox. 1 Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 Acute Tox. 4 STOT SE 3 STOT RE 2	H226 H304 H312 H315 H319 H332 H335 H373	<5,0
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics REACH Registr. Nr.: 01-2119463258-33	919-857-5	-	Flam. Liq. 3 Asp. Tox. 1 STOT SE 3 (Note J)	H226 H304 H336	<5,0
Naphtha (petroleum), hydrotreated heavy REACH Registr. Nr.: 01-2119486659-16	265-150-3	64742-48-9	Asp. Tox. 1 (Note P)	H304	≤2,5
Zinc powder (stabilized) REACH Registr. Nr.: 01-2119467174-37	231-175-3	7440-66-6	Aquatic Acute 1 Aquatis Chronic 1	H400 (M=1) H410 (M=1)	≥0,25 - <2,5

*Butadiene content: <0.1%

Note P:
The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P260-P262-P301 + P310-P331 shall apply.

Note J:
The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes.

The full text of each relevant H- phrase and Hazard classes and cat. see in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information: Never give anything by mouth to an unconscious person, or never induce vomiting.

Inhalation: Remove the affected person to fresh air. If rapid recovery does not occur, obtain medical attention.
If unconscious, place in recovery position. Give oxygen if necessary.

Skin contact: Remove contaminated clothing. Wash skin with large amounts of water, use soap. In case of persistent irritation, get medical attention.

Eye contact: Flush eyes with plenty of water, holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for approx. for 15 minutes.
In case of persistent irritation, get medical attention.

Ingestion: Rinse mouth thoroughly with water. DO NOT induce vomiting. In case of spontaneous vomiting, keep head low, to avoid the risk of aspiration into the lungs. If unconscious, place in recovery position. Get prompt medical attention.

Protection of first-aid person: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation.

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

Causes serious eye irritation.
May cause drowsiness or dizziness.

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

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Alcohol resistant foam, carbon dioxide, dry chemical powder.

Unsuitable extinguishing media:

No data.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products:

On burning, carbon dioxide, carbon monoxide and other toxic fumes / gases can be formed.

5.3. Advice for fire-fighters

Special protective equipment:

According to the existing fire-fighting regulations. Respiratory protection.

Further information:

Pressurised container: May burst if heated.
In case of fire, keep containers cool with water spray.
Formation of explosive vapour/air mixture is possible.
Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: see Section 8.
Sufficient ventilation should be provided.
Keep persons not involved in rescue at a distance.
Keep away from sources of ignition – No smoking.
Avoid contact with skin, clothing and eyes, inhalation of vapours.

6.2. Environmental precautions:

Confine spills to prevent material from entering sewers, watercourses, drains and into soil
Notify relevant authority.

6.3. Methods and material for containment and cleaning up

On soil: Adequate ventilation must be provided. All kind of ignition sources should be removed. Recover free liquid by pumping. Contain the rest or small quantities with non-combustible liquid-absorbent material (sand, diatomaceous earth, acid binder, universal liquid binder). Place in properly labelled closed container. Dispose of according to local regulations.
The contaminated area should not be washed with water or aqueous detergents.

On water: Confine the spillage. Remove from surface by skimming or suitable absorbents. Notify local authorities according to regulations.

6.4. Reference to other sections

Personal precautions: see section 8.
Waste treatment methods: see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep general measures applied for normal operations with chemicals and flammable liquids.
Adequate ventilation or local exhaust must be provided.
Avoid contact with skin, clothing and eyes, inhalation of gas, vapour, aerosol.
Keep away from sources of ignition – No smoking.
Take measures to prevent electrostatic charges.
Product can form flammable/explosive gas/vapour/air mixtures.
Do not spray on a naked flame or any incandescent material.
Pressurized container: Do not pierce or burn, even after use.
Protect from sunlight and do not expose to temperatures exceeding 50°C.
Wash hands before breaks and at end of work.
Take off contaminated clothing and wash it before reuse.
When using do not eat, drink or smoke. Avoid splashing the product.
Handling temperature: no data.

7.2. Conditions for safe storage, including any incompatibilities

Storage facilities must comply with regulations for storing of flammable liquids.
Store in dry, cool well-ventilated place in original, closed containers.
Keep away from direct sunshine, direct heat or ignition sources.
Keep away from food, drink and feed.
Keep out of reach of children.
Storage temperature: Storage in lower temperatures than 50°C. Protect from frost.

7.3. Specific end use(s)

Zinc dust repair spray.

SECTION 8: Exposure controls / personal protection

8.1. Control parameters:

Substance	CAS number	Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		Notes
		ppm	mg/m^3	ppm	mg/m^3	
Acetone	67-64-1	500	1210	-	-	IOELV
Butane	106-97-8	-	-	1000	-	-
Aluminum powder	7429-90-5	-	1 (R)	-	-	-

Substance	CAS number	long therm exposure limit (8- hr)		short therm exposure limit (15- min.)		Comments
Xylene	1330-20-7	50	221	100	442	Sk, IOELV
Ethylbenzene	100-41-4	100	442	200	884	Sk, IOELV

8.2. Exposure controls

Engineering control measures:
Adequate ventilation.

Personal protection:

(a) Eye/face protection — Tightly fitting safety goggles (EN 166).

(b) Skin protection

(i) Hand protection — Solvent-resistant protective gloves (EN 374)
Material: butyl
Note: Manufacturer's directions for use and the conditions of application should be observed.

(ii) Other — Work clothes.

(c) Respiratory protection — Under normal conditions not required. In case of exceeded exposure-limits respiratory protection with particle-filter is recommended (filter type A2-P2, EN 14387).
In case of high concentration or long-term exposure, a respirator independent of the ambient air is required.

(d) Thermal hazards — No data.

Environmental exposure controls:
Do not discharge into drains/surface waters/groundwater.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a)	Physical state:	aerosol
b)	Colour:	according to product designation
c)	Odour:	characteristic
d)	Melting point/freezing point (Pour point):	not available
e)	Boiling point or initial boiling point and boiling range:	-44°C
f)	Flammability:	Extremely flammable aerosol.
g)	Lower and upper explosion limit:	1.5 V/% 13 V/%
h)	Flash point:	<0°C

i)	Auto-ignition temperature:	not available
j)	Decomposition temperature:	not available
k)	pH:	not available
l)	Kinematic viscosity	
	at 40°C:	not available
	at 100°C:	not available
m)	Solubility	
	Solubility in water:	not soluble, or only slightly soluble in water
	Solubility in other solvents:	not available
n)	Partition coefficient n-octanol/water (log value):	not available
o)	Vapour pressure at 20°C:	8.300 hPa
p)	Density and/or relative density:	~0.73 g/cm^3
q)	Relative vapour density:	not available
r)	Particle characteristics:	not available

9.2. Other information

Explosive properties:	Product is not explosive. However, formation of explosive air/steam mixtures is possible.
Ignition temperature:	365°C

SECTION 10: Stability and reactivity

10.1. Reactivity	Dangerous reactivity not known.
10.2. Chemical stability	No decomposition if stored and handled properly.
10.3. Possibility of hazardous reactions	Not known.
10.4. Conditions to avoid	High temperature (over 50°C), ignition source, heat source, open flame, spark, direct sunlight, electrostatic charging.
10.5. Incompatible materials	Strong acids, oxidizing agents, alkalis.
10.6. Hazardous decomposition products	No dangerous decomposition products are formed under normal conditions. Hazardous combustion products: See Section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity: Based on available data, the classification criteria are not met.

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.
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:	May cause drowsiness or dizziness.
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.

11.2. Information on other hazards
The product does not contain any substance with endocrine disrupting properties.

SECTION 12: Ecological information

12.1. Toxicity	Harmful to aquatic life with long lasting effects.
12.2. Persistence and degradability	No data for the product.
12.3. Bioaccumulative potential	No data for the product.
12.4. Mobility in soil	No data available.
Mobility in water:	No data available.
12.5. Results of PBT and vPvB assessment	Does not contain PBT and vPvB substances.
12.6. Endocrine disrupting properties	The product does not contain any substance with endocrine disrupting properties.
12.7. Other adverse effects	Do not allow to enter sewers, surface water or ground water.
Water hazard class (German):	WGK 2 (self-classification)

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product disposal:
Wastes of the product or used oil should be treated as hazardous waste.

Waste Identification Code: 16 05 04*
Gases in pressure containers (including halons) containing dangerous substances.

Disposal must be in compliance with national and local regulations.

Packaging disposal:

Containers with product residue should also be treated as hazardous waste according to national and local disposal regulations.
Waste Identification Code: 15 01 04
Metallic packaging.

Disposal must be in compliance with national and local regulations.

Wastewater:

Quality of wastewater emitted to natural water must comply with national and local regulations.

Care should be taken in any case to ensure compliance with EC, national and local regulations.
It is the responsibility of the user to know all relevant national and local regulations.

SECTION 14: Transport information

14.1.	UN number or ID number:	1950
14.2.	UN proper shipping name:	AEROSOLS
14.3.	Transport hazard class(es):	2.1
14.4.	Packing group:	Not classified.
14.5.	Environmental hazards:	Not classified.
	Marine pollutant:	no
14.6.	Special precautions for user:	
	Labels (ADR/RID/ADN):	2.1
	Classification code (ADR/RID/ADN):	5F
	Limited quantities (ADR/RID/ADN):	1L
	Transport category (ADR/RID):	2
	Tunnel restriction code (ADR/RID):	D
	EmS (IMDG):	F-D, S-U
14.7.	Maritime transport in bulk according to IMO instruments	Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety data sheet has been prepared according to Regulation (EC) No 1907/2006 (mod.: 2020/878/EU) and to Regulation (EC) 1272/2008.

Seveso category: P3.a.

The product contains a reportable explosive precursor component (based on Annex II of Regulation (EU) 2019/1148):
Acetone (CAS: 67-64-1)

15.2. Chemical safety assessment.
not available

SECTION 16: Other information

The information given in this data sheet is based on our best knowledge at the time of publication. The information is related only to this product and is intended to assist its safe transport, handling and use. The given physical and chemical parameters describe the product only for the purpose of safety requirements and therefore should not be construed as guaranteeing any specific property of the product or as being part of a product specification or any contract.
The manufacturer or supplier shall not take responsibility for any damages from the use other than recommended or other misuse of the product. It is the responsibility of the user to keep regulatory precautions and observe recommendations for safe use of the product.

Classification for mixtures and used evaluation method according to regulation (EC) 1272/2008 (CLP)

Aerosol 1	H222 + H229	calculation method (based on flammable components)
Eye Irrit. 2	H319	calculation method
STOT SE 3	H336	calculation method
Aquatic Chronic 3	H412	calculation method

The full text of each relevant H- phrase and Hazard classes and cat. in Section 3.:

H220	Extremely flammable gas
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H261	In contact with water releases flammable gases
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness
H373	May cause damage to organs through prolonged or repeated exposure through prolonged or repeated exposure.
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.
Flam. Gas 1	Flammable gas Category 1
Flam. Liq. 2	Flammable liquid Category 2
Flam. Liq. 3	Flammable liquid Category 3
Flam. Sol. 1	Flammable solid Category 1
Water-react. 2	Substances and mixtures which in contact with water emit flammable gases Category 2
Press Gas	Compressed gas
Asp. Tox. 1	Aspiration hazard Category 1
Acute Tox. 4	Acute toxicity Category 4
Skin Irrit. 2	Skin corrosion/irritation Category 2
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Acute Tox. 4	Acute toxicity Category 4
STOT SE 3	Specific target organ toxicity — single exposure Category 3
STOT SE 3	Specific target organ toxicity — single exposure Category 3
STOT RE 2	Specific target organ toxicity – repeated exposure Category 2
Aquatic Acute 1	Hazardous to the aquatic environment, Acute Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, Chronic Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment, Chronic Category 3

Legend:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration Factor
BOD	Biological Oxygen Demand
Bw	Body Weight
C&L	Classification and Labelling
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic or toxic to Reproduction
COD	Chemical Oxygen Demand
CSA	Chemical Safety Assessment
CSR	Chemical Safety Report

DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
ECHA	European Chemicals Agency
Ecx	Effective Concentration x%
ErC50	EC50 in terms of reduction of growth rate
Edx	Effective Dose x%
EC	European Community
EC number	European Community number
ELINCS	European List of Notified Chemical Substances
ES	Exposure Scenario
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LCx	Lethal Concentration x%
LDx	Lethal Dose x%
LOAEC	Lowest Observed Adverse Effect Concentration
LOAEL	Lowest Observed Adverse Effect Level
LOEC	Lowest Observed Effect Concentration
LOEL	Lowest Observed Effect Level
NOEC	No observed effect concentration
NOEL	No observed effect level
NLP	No-Longer Polymer
NOAEL	No Observed Adverse Effect Level
OECD	Organisation for Economic Cooperation and Development
PBT	Persistent Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts/million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International carriage of Dangerous Goods by Rail
SVHC	Substance of Very High Concern
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bio-accumulative

Revision Indicators:

Section	Subject of change	Date	Version