

1. Product and company identification

Product identifier

Trade name: Special adhesive for heating cartridges -Hardener-

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

General use: Hardener for 2 component adhesive

Details of the supplier of the safety data sheet

Company name: Coolride GmbH

Street/POB-No.: Mangenberger Str. 150

Postal Code, city: 42655 Solingen

Germany

WWW: www.coolride.de

E-mail: info@coolride.de

Telephone: +49/212 / 2357069

Telefax: +49/212 / 68110694

Department responsible for information:

Mark Peter Schildmann

Telephone: +49/212 / 2357069, E-mail: mpschildmann@coolride.de

Emergency phone number

GIZ-Nord, Göttingen

Telephone: +49 551-19240

2. Hazards identification

Emergency overview

Appearance: Physical state at 68 °F and 101.3 kPa: liquid

Form: pasty

Color: white

Odor: characteristic

Classification: Skin Corrosion - Category 1C; Sensitization - skin - Category 1;

Hazard symbols:



Signal word: **Danger**

Hazard statements: Causes severe skin burns and eye damage.

May cause an allergic skin reaction.



SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010

Revision date: 4/12/2021

Version: 4.0

Language: en-US

Date of print: 6/7/2021

Special adhesive for heating cartridges -Hardener-

Material number A1211B

Page: 2 of 10

Precautionary statements: Keep out of reach of children.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands and face thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of water/soap.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/or shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see ' First aid ' on this label).
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified

Special danger of slipping by leaking/spilling product.
see section 11: Toxicological information

3. Composition / Information on ingredients

Relevant ingredients:

| CAS No. | Designation | Concentration | Classification |
|----------------|---|---------------|--|
| CAS 90-72-2 | 2,4,6-tris (Dimethylaminomethyl) phenol | 1 - 10 % | Acute Toxicity - oral - Category 4. Skin Corrosion - Category 1C. Eye Damage - Category 1. Sensitization - skin - Category 1. |
| CAS 71074-89-0 | Bis[(dimethylamino) methyl]phenol | < 1.5 % | Skin Corrosion - Category 1B. |

Additional information: Ammonia
The maximum workplace exposure limits are, where necessary, listed in section 8.

4. First aid measures

General information: First aider: Pay attention to self-protection!
If medical advice is needed, have product container or label at hand. Take off immediately all contaminated clothing and wash it before reuse.

In case of inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention.

Following skin contact: Immediately clean with water and soap followed by thorough rinsing. In case of skin reactions, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Seek the attention of an ophthalmologist immediately.



SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010

Revision date: 4/12/2021

Version: 4.0

Language: en-US

Date of print: 6/7/2021

Special adhesive for heating cartridges -Hardener-

Material number A1211B

Page: 3 of 10

After swallowing: Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Immediately get medical attention.

Most important symptoms/effects, acute and delayed

Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

No data available

Auto-ignition temperature: No data available

Suitable extinguishing media:

Water spray jet, foam, dry chemical powder, Carbon dioxide

Extinguishing media which must not be used for safety reasons:

Full water jet

Specific hazards arising from the chemical

May form dangerous gases and vapors in case of fire.

Furthermore, there may develop: Nitrogen oxides (NO_x), sulphur oxides, ammonia, carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Do not allow fire water to penetrate into surface or ground water.

6. Accidental release measures

Personal precautions:

Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with the substance. If possible, eliminate leakage. Provide adequate ventilation. Wear appropriate protective equipment. Take off immediately all contaminated clothing and wash it before reuse. Keep unprotected people away.

Environmental precautions:

Do not allow to enter into ground-water, surface water or drains.
If necessary notify appropriate authorities.

Methods for clean-up:

Larger quantities to be stemmed and pumped into tanks. Take up residuals mechanically and dispose them according to the regulations. Dispose of in accordance with the regulations.

Clean up small amounts using water. Dispose of waste water according to local, state, and federal regulations.

Additional information:

Special danger of slipping by leaking/spilling product.

7. Handling and storage

Handling

Advices on safe handling:

Provide adequate ventilation, and local exhaust as needed. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Wear appropriate protective equipment.

Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse.

When handling large quantities, supply emergency spray.



SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010

Revision date: 4/12/2021

Version: 4.0

Language: en-US

Date of print: 6/7/2021

Special adhesive for heating cartridges -Hardener-

Material number A1211B

Page: 4 of 10

Precautions against fire and explosion:

Keep away from heat.

When handling larger quantities, take precautionary measures against electrostatic charging.

Storage

Requirements for storerooms and containers:

Keep container dry, tightly closed and store at cool and aired place.

storage temperature: 50 °F up to 68 °F

Hints on joint storage:

Keep away from food, drink and animal feedingstuffs.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

| CAS No. | Designation | Type | Limit value |
|-----------|--------------------|------------------|-------------------------------|
| 7664-41-7 | Ammonia, anhydrous | USA: ACGIH: STEL | 24 mg/m ³ ; 35 ppm |
| | | USA: ACGIH: TWA | 17 mg/m ³ ; 25 ppm |
| | | USA: NIOSH: STEL | 27 mg/m ³ ; 35 ppm |
| | | USA: NIOSH: TWA | 18 mg/m ³ ; 25 ppm |
| | | USA: OSHA: TWA | 35 mg/m ³ ; 50 ppm |

Engineering controls

Provide adequate ventilation.

See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection: Wear suitable protective clothing.
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.
Glove material: nitrile rubber, PVC
Layer thickness: >0.5 mm
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded.
Use combination filter type A2-P3 according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.
The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

General hygiene considerations:

Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Take off immediately all contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. When handling large quantities, supply emergency spray.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".



SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010

Revision date: 4/12/2021

Version: 4.0

Language: en-US

Date of print: 6/7/2021

Special adhesive for heating cartridges -Hardener-

Material number A1211B

Page: 5 of 10

9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|--|--|
| Appearance: | Physical state at 68 °F and 101.3 kPa: liquid Form: pasty Color: white |
| Odor: | characteristic |
| Odor threshold: | No data available |
| pH: | No data available |
| Melting point/freezing point: | No data available |
| Initial boiling point and boiling range: | No data available |
| Flash point/flash point range: | No data available |
| Evaporation rate: | No data available |
| Flammability: | No data available |
| Explosion limits: | No data available |
| Vapor pressure: | No data available |
| Vapor density: | No data available |
| Density: | No data available |
| Solubility: | No data available |
| Partition coefficient: n-octanol/water: | No data available |
| Auto-ignition temperature: | No data available |
| Thermal decomposition: | No data available |
| Additional information: | No data available |

10. Stability and reactivity

| | |
|-------------------------------------|---|
| Reactivity: | Refer to subsection "Possibility of hazardous reactions". |
| Chemical stability: | Stable under recommended storage conditions. |
| Possibility of hazardous reactions: | No dangerous reactions with proper and specified storage and handling. |
| Conditions to avoid: | Keep away from heat sources, sparks and open flames. Protect from direct sunlight. |
| Incompatible materials: | No data available |
| Hazardous decomposition products: | No decomposition when used properly. |
| Thermal decomposition: | No data available |



SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010

Revision date: 4/12/2021

Version: 4.0

Language: en-US

Date of print: 6/7/2021

Special adhesive for heating cartridges -Hardener-

Material number A1211B

Page: 6 of 10

11. Toxicological information

Toxicological tests

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.
Acute toxicity (oral): Based on available data, the classification criteria are not met.
LD50 Rat, oral: > 20,000 mg/kg
Acute toxicity (dermal): Lack of data.
Acute toxicity (inhalative): Lack of data.
Skin corrosion/irritation: Skin Corrosion - Category 1C = Causes severe skin burns and eye damage.
Serious eye damage/irritation: Lack of data.
Sensitisation to the respiratory tract: Lack of data.
Skin sensitisation: Sensitization - skin - Category 1 = May cause an allergic skin reaction.
Germ cell mutagenicity/Genotoxicity: Lack of data.
Carcinogenicity: Lack of data.
Reproductive toxicity: Lack of data.
Effects on or via lactation: Lack of data.
Specific target organ toxicity (single exposure): Lack of data.
Specific target organ toxicity (repeated exposure): Lack of data.
Aspiration hazard: Lack of data.

Symptoms

After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

12. Ecological information

Ecotoxicity

Aquatic toxicity: Information about 2,4,6-tris(Dimethylaminomethyl)phenol:
Fish toxicity:
LC50 Cyprinus carpio (Common Carp): 175 mg/L/96 h
Algae toxicity:
EL50 Desmodesmus subspicatus (green algae): 84 mg/L/72 h.

Mobility in soil

No data available

Persistence and degradability

Further details: No data available

Additional ecological information

Volatile organic compounds (VOC):

0 % by weight = 0 g/L

General information: Do not allow to penetrate into soil, waterbodies or drains.

13. Disposal considerations

Product

Recommendation: Dispose of waste according to applicable legislation. May be taken to household waste disposal or incineration plant.

Package

Recommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

14. Transport information**14.2 UN proper shipping name**

ADR/RID, IMDG, IATA-DGR:

UN 2735, AMINES, LIQUID, CORROSIVE, N.O.S.
(2,4,6-tris(Dimethylaminomethyl)phenol, Bis[(dimethylamino)methyl]phenol)

Transport hazard class(es)

ADR/RID: Class 8, Code: C7
IMDG: Class 8, Subrisk -
IATA-DGR: Class 8

**Packing group**

ADR/RID, IMDG, IATA-DGR:

III

Environmental hazards

Marine pollutant: no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

USA: Department of Transportation (DOT)

Identification number: UN2735
Proper shipping name: UN 2735, AMINES, LIQUID, CORROSIVE, N.O.S.
(2,4,6-tris(Dimethylaminomethyl)phenol,
Bis[(dimethylamino)methyl]phenol)

Hazard class or Division: 8
Packing Group: III
Labels: 8
Symbols: G
Special provisions: IB3, T7, TP1, TP28
Packaging – Exceptions: 154
Packaging – Non-bulk: 203
Packaging – Bulk: 241
Quantity limitations – Passenger aircraft / rail: 5 L
Quantity limitations – Cargo only: 60 L
Vessel stowage – Location: A
Vessel stowage – Other: 52





SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010

Revision date: 4/12/2021

Version: 4.0

Language: en-US

Date of print: 6/7/2021

Special adhesive for heating cartridges -Hardener-

Material number A1211B

Page: 8 of 10

Sea transport (IMDG)

UN number: UN 2735
Proper shipping name: UN 2735, AMINES, LIQUID, CORROSIVE, N.O.S.
(2,4,6-tris(Dimethylaminomethyl)phenol, Bis[(dimethylamino)methyl]phenol)
Class or division, Subsidiary risk: Class 8, Subrisk -
Packing Group: III
EmS: F-A, S-B
Special provisions: 223, 274
Limited quantities: 5 L
Excepted quantities: E1
Package - Instructions: P001, LP01
Package - Provisions: -
IBC - Instructions: IBC03
IBC - Provisions: -
Tank instructions - IMO: -
Tank instructions - UN: T7
Tank instructions - Provisions: TP1, TP28
Stowage and handling: Category A.
Segregation: SG35
Properties and observations: Colourless to yellowish liquids or solutions with a pungent odour. Miscible with or soluble in water. When involved in a fire, evolve toxic gases. Corrosive to most metals, especially to copper and its alloys. React violently with acids. Cause burns to skin, eyes and mucous membranes.
Marine pollutant: no
Segregation group: 18

Air transport (IATA)

UN/ID number: UN 2735
Proper shipping name: UN 2735, AMINES, LIQUID, CORROSIVE, N.O.S.
(2,4,6-tris(Dimethylaminomethyl)phenol, Bis[(dimethylamino)methyl]phenol)
Class or division, Subsidiary risk: Class 8
Packing Group: III
Hazard label: Corrosive
Excepted Quantity Code: E1
Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y841 - Max. Net Qty/Pkg. 1 L
Passenger and Cargo Aircraft: Pack.Instr. 852 - Max. Net Qty/Pkg. 5 L
Cargo Aircraft only: Pack.Instr. 856 - Max. Net Qty/Pkg. 60 L
Special provisions: A3 A803
Emergency Response Guide-Code (ERG): 8L

Further information

Protect from exposure to heat, direct sunlight, and cold.



SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010

Revision date: 4/12/2021

Version: 4.0

Language: en-US

Date of print: 6/7/2021

Special adhesive for heating cartridges -Hardener-

Material number A1211B

Page: 9 of 10

15. Regulatory information

National regulations - U.S. Federal Regulations

Product: 2,4,6-tris(Dimethylaminomethyl) phenol:
TSCA Inventory: listed
TSCA HPVC: not listed
CAS 71074-89-0 is an impurity of the CAS 90-72-2: is listed on TSCA or exempt from listing.

2,4,6-tris(Dimethylaminomethyl)phenol: TSCA Inventory: listed
TSCA HPVC: not listed

Ammonia, anhydrous: TSCA Inventory: listed
TSCA HPVC: listed
Clean Air Act:
Accidental Release Prevention: Threshold 20000 lbs. / Basis for listing = a,b
Clean Water Act:
Hazardous Substances: RQ 100 lbs.
Other Environmental Laws:
CERCLA: RQ 100 lbs.
SARA Title III Section 302, EHS: TPQ 500 lbs. / RQ 100 lbs.
SARA Title III Section 313, Toxic Release: Conc. 1.0% /
Threshold Standard
NIOSH Recommendations:
Occupational Health Guideline: 0028*
OSHA Process Safety Management: Threshold 10000 lbs.

National regulations - U.S. State Regulations

Ammonia, anhydrous: California Proposition 65 code: not listed
Delaware Air Quality Management List:
DRQ: 50 - RQ State: State requirement differs from Federal
Idaho Air Pollutant List:
Title 585: AAC: 0.9 - EL: 1.2 - OEL: 18 - Title 586: -
Maine Hazardous Air Pollutants:
Me 2005: CAP / HAP - Hap Rpt: 2000
Massachusetts Haz. Substance codes: 2,4,5,6 *E* F6 F8 F9
Minnesota Haz. Substance:
Codes: ANOS - Ratings: 9.39 - Status: Title III. TRI.
New Jersey Extraordinarily Hazardous Substances:
EPA Threshold: 10000 - NJ Threshold: 5200
NJ Group: II - NJ Table: I Part A - NJ Basis: Not on List
New Jersey RTK Hazardous Substance:
DOT: 1005 - Sub No.: 0084 - TPQ: -- EHS: Yes
New York List of Hazardous Substances:
RQ-Air: 100 - RQ-Land: 100 - Note: No Note Associated with this chemical.
Pennsylvania Haz. Substance code: E
Washington Air Contaminant:
TWA: 25 ppm - 18 mg - STEL: 35 ppm - 27 mg

National regulations - Great Britain

Hazchem-Code: 2X

16. Other information

Text for labeling: Contains 1 - 10 % 2,4,6-tris(Dimethylaminomethyl)phenol, < 1.5 %
Bis[(dimethylamino)methyl]phenol. Safety data sheet available on request.
Contains: 2,4,6-tris(Dimethylaminomethyl)phenol and Bis[(dimethylamino)methyl]phenol.



SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010

Revision date: 4/12/2021

Version: 4.0

Language: en-US

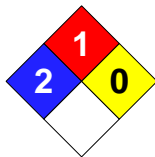
Date of print: 6/7/2021

Special adhesive for heating cartridges -Hardener-

Material number A1211B

Page: 10 of 10

Hazard rating systems:



NFPA Hazard Rating:
Health: 2 (Moderate)
Fire: 1 (Slight)
Reactivity: 0 (Minimal)
HMIS Version III Rating:
Health: 2 (Moderate)
Flammability: 1 (Slight)
Physical Hazard: 0 (Minimal)
Personal Protection: X = Consult your supervisor

| | |
|-----------------|---|
| HEALTH | 2 |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 0 |
| | X |

Abbreviations and acronyms:

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
OEL: Occupational Exposure Limit Value
AS/NZS: Australian Standards/New Zealand Standards
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EL50: Effective loading rate 50%
EN: European Standard
MFSU: Manufacture, formulation, supply and use
IATA: International Air Transport Association
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
LC50: Median lethal concentration
LD50: Lethal dose 50%
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
PVC: Polyvinyl chloride
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
TLV: Threshold Limit Value
UN: United Nations
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit

Reason of change: General revision

Date of first version: 7/20/2018

Department issuing data sheet

Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.