ARCTIC MX-4 – Safety Datasheet

according to Regulation (EC) No. 1907/2006 and 1272/2008

Version 2.0

Issued Date: 2025-09-16
Revision Date: 2026-11-10

Section 1: Identification of the Substance/Mixture and of the Company

1.1 Product identifier

Commercial Name: ARCTIC MX-4 Thermal Compound

UFI: CQ30-X0FF-H00H-8J18

Part No. / UPC / EAN: ACTCP00001B / 87276700965-3 / 4895213701723

ACTCP00002B / 87276700958-5 / 4895213701655

ACTCP00007B / 87276700957-8 / 4895213701631

ACTCP00008B / 87276700959-2 / 4895213701662

ACTCP00024A / 87276700960-8 / 4895213701679

ACTCP00031B / 84003340046-6 / 4895213702591

ACTCP00059A / 84003340085-5 / 4895213703055

ACTCP00071A / 87276700824-3 / 4895213700832

ACTCP00072A / 84003340148-7 / 4895213703673

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

Use of the substance or mixture: Thermal interface material for electrical industry and electronics

1.3 Details of the supplier of the safety data sheet

Manufacturer / Exporter: **ARCTIC (HK) Ltd.** | Unit 3001-07, The Octagon, No. 6 Sha Tsui Road, Tsuen Wan, New Territories Hong Kong

US Responsible Party: **ARCTIC Inc** | 407 Quinby Plaza, Quinby, SC 29506, Florence County, USA

EU Responsible Party: **ARCTIC GmbH** | Bevenroder Straße 149A, 38108 Braunschweig, Deutschland

Email address: info@arctic.de

1.4 Emergency telephone number

United States: +1 (843) 292 9494 *(Mon–Fri, 8:00 AM – 5:00 PM EST)*

Germany: +49 (531) 609 45294 *(Mon–Fri, 8:00 AM – 5:00 PM CET)*

National Helpdesks & Emergency Services Directory (EU): https://support.arctic.de/emergency

Section 2: Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Chronic aquatic toxicity — Category 2 – (H411)

2.2 Label elements

Symbols/Pictograms



Signal word: None

Hazard statements: H411 – Toxic to aquatic life with long lasting effects

Precautionary statements:
P273 – Avoid release to the environment
P391 – Collect spillage
P501 – Dispose of contents / container to an approved waste disposal plant

2.3 Other hazards

Results of PBT and vPvB assessment:

PBT: Not applicable

vPvB: Not applicable

Determination of endocrine-disrupting properties: Not applicable

Section 3: Composition/Information on Ingredients

3.2 Mixtures hazards

Mixture of the substances listed below with nonhazardous additions.

Name	CAS No.	EINECS/ ELINCS No	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 (CLP)
Aluminum	7429-90-5	231-072-3	65.1 – 71.9	Flam. Sol. 1 (H228) Water-react. 2 (H261)
Zinc Oxide	1314-13-2	215-222-5	22.8 – 24.1	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Polysiloxane	63148-62-9	-	7.3 – 7.7	-
Pigment	8049-97-6	-	≤0.1	-

Section 4: First Aid Measures

4.1 Description of first aid measures

General Advice: In case of accident or unwellness, seek medical advice immediately. Refer to ARCTIC Thermal Interfaces - User Manual for ARCTIC MX-4 - Documentation for more information.

After inhalation: If exposed to fumes or dust, move the person to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice if symptoms occur.

After skin contact: Wash thoroughly with soap and water. If skin irritation develops, seek medical advice.

After eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do then continue rinsing. If eye irritation persists: Get medical advice/attention.

After swallowing: Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical advice if feeling unwell.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information is available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Section 5: Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing agents: Use extinguishing measures appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

No further relevant information is available.

5.3 Advice for firefighters

Evacuate personnel to a safe area. Move containers from the fire zone if this can be done without risk. Cool exposed containers with water spray. Firefighters should wear self-contained breathing apparatus and full protective gear. Stay upwind and ensure adequate ventilation in confined spaces.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Ensure adequate ventilation in confined areas. Avoid contact with skin, eyes, or clothing. Prevent material from entering drains or waterways. Use personal protective equipment as recommended in Section 8

6.2 Environmental precautions

Notify local authorities if significant spillages cannot be contained. Prevent entry into waterways, sewers, basements, or confined areas.

6.3 Methods and material for containment and cleaning up:

Contain and collect spillage with non-combustible absorbent material (e.g., sand, earth, diatomaceous earth, vermiculite). Place in suitable container for disposal in accordance with local/national regulations (see Section 13). Prevent material from entering drains or waterways

6.4 Reference to other sections:

See Section 7 for more information
See Section 8 for more information
See Section 13 for more information

Section 7: Handling and Storage

7.1 Precautions for safe handling:

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation in confined areas. Avoid unnecessary contact with skin, eyes, or clothing. Prevent release to the

environment. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling. Use personal protective equipment as recommended in Section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles: Store at temperatures between −25 °C and 50 °C.

Keep containers tightly closed in a dry, cool, and well-ventilated place.

Information about storage in one common storage facility: Keep away from food, drink and animal feed.

Do not store with oxidizing agents.

Further information about storage conditions: Protect from heat and direct sunlight. Keep locked up and out of reach of children. Store in accordance with local and national regulations.

7.3 Specific end 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

Ingredients with limit values that require monitoring at the workplace:		
Chemical Name	**Aluminum** *(CAS #: 7429-90-5)*	**Zinc Oxide** *(CAS #: 1314-13-2)*
Australia	10 mg/m^3 5 mg/m^3	10 mg/m^3 5 mg/m^3 STEL: 10 mg/m^3
Austria	STEL: 20 mg/m^3 TWA: 10 mg/m^3	TWA: 5 mg/m^3
Belgium	-	-
Denmark	TWA: 5 mg/m^3 TWA: 2 mg/m^3	TWA: 4 mg/m^3
European Union	-	-
Latvia	TWA: 2 mg/m^3	TWA: 0.5 mg/m^3
France	TWA: 10 mg/m^3 TWA: 5 mg/m^3	TWA: 5 mg/m^3 TWA: 10 mg/m^3
Finland	TWA: 1.5 mg/m^3	TWA: 2 mg/m^3 STEL: 10 mg/m^3
Germany	TWA: 4 mg/m^3 TWA: 1.5 mg/m^3	TWA: 1 mg/m^3 TWA: 0.1 mg/m^3 TWA: 2 mg/m^3 Ceiling / Peak: 2 mg/m^3 Ceiling / Peak: 0.4 mg/m^3 Ceiling / Peak: 4 mg/m^3
Italy	-	-
Poland	TWA: 2.5 mg/m^3 TWA: 1.2 mg/m^3	STEL: 10 mg/m^3 TWA: 5 mg/m^3
Portugal	TWA: 10 mg/m^3 TWA: 5 mg/m^3	STEL: 10 mg/m^3 TWA: 2 mg/m^3
Spain	TWA: 10 mg/m^3 TWA: 5 mg/m^3	STEL: 10 mg/m^3 TWA: 2 mg/m^3
Switzerland	TWA: 3 mg/m^3	STEL: 3 mg/m^3 TWA: 3 mg/m^3
Netherlands	-	-
Norway	TWA: 5 mg/m^3 STEL: 5 mg/m^3	TWA: 5 mg/m^3 STEL: 10 mg/m^3

United Kingdom	STEL: 30 mg/m^3 STEL: 12 mg/m^3 TWA: 10 mg/m^3 TWA: 4 mg/m^3	-
ACGIH TLV	TWA: 1mg/m^3 respirable fraction	STEL: 10 mg/m^3 respirable fraction TWA: 2 mg/m^3 respirable fraction
OSHA PEL	TWA: 15 mg/m^3 total dust TWA: 5 mg/m^3 respirable fraction (vacated) TWA: 15 mg/m^3 total dust (vacated) TWA: 5 mg/m^3 respirable fraction (vacated) TWA: 5 mg/m^3 Al Aluminum	TWA: 5 mg/m^3 fume TWA: 15 mg/m^3 total dust TWA: 5 mg/m^3 respirable fraction (vacated) TWA: 5 mg/m^3 fume (vacated) TWA: 10 mg/m^3 total dust (vacated) TWA: 5 mg/m^3 respirable fraction (vacated) STEL: 10 mg/m^3 fume
NIOSH IDHL	TWA: 10 mg/m^3 total dust TWA: 5 mg/m^3 respirable dust TWA: 5 mg/m^3 Al Aluminum	IDLH: 500 mg/m^3 Ceiling: 15 mg/m^3 dust TWA: 5 mg/m^3 dust and fume STEL: 10 mg/m^3 fume

Derived No Effect Level (DNEL): No further relevant information is available.

PNECs: No further relevant information is available.

Ingredients with biological limit values:	
Aluminum *(CAS #: 7429-90-5)*	
BGW (Germany)	50 µg/g Creatinine Test material: Urine Sampling time: In case of long-term exposure: at the end of the shift after several previous coats Parameters: Aluminum

Note: Biological limit values are provided for reference only; they do not imply health hazard classification for the mixture.

8.2 Exposure controls

Based on the composition shown in Section 3, the following measures are suggested for occupational safety measures.

Appropriate engineering controls: Ensure adequate ventilation in confined areas. Wash hands before breaks and at the end of work. Prevent release to the environment.

Individual protection measures, such as personal protective equipment

Respiratory protection: Not required.

Hand protection: Wear protective gloves resistant to the product. Selection should consider breakthrough times and compatibility information provided by the glove manufacturer.

Eye/face protection: Safety glasses or goggles recommended during refilling or bulk handling.

Body protection: Protective work clothing.

Thermal hazards: Not applicable under normal use.

Environmental exposure controls: Avoid release to drains or waterways. Dispose of in accordance with Section 13 and local/national regulations.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

PROPERTY	VALUE
Physical state	Paste
Colour	Grey
Odour	Odorless
Odour threshold	Not determined
Melting point / Freezing point	Not determined
Boiling point or initial boiling point and boiling range	Not determined
Flammability	Non-flammable
Lower and upper explosion limit	Non-explosive
Flash point	> 145°C
Auto-ignition temperature	Not determined
Decomposition temperature	Not determined
pH	Not determined
Viscosity	31,600 poise
Solubility(ies)	Insoluble in water
Vapour pressure	Not determined
Density	2.7 g/cm^3
Relative vapour density	Not Applicable

9.2 Other information

In addition to the properties listed in Section 9.1, no other physical or chemical parameters are relevant for the safe use of this mixture, as defined under the physical hazard classes in Regulation (EC) No. 1272/2008.

Section 10: Stability and Reactivity

10.1 Reactivity

No further relevant information available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known under normal conditions of use.

10.4 Conditions to avoid

Avoid extreme temperatures and direct sunlight.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

None under normal use conditions.

Section 11: Toxicological Information

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

Acute toxicity: Based on available data for the components, the mixture is not expected to present acute toxicity hazards. The following values are provided for reference.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum (CAS #: 7429-90-5)	LD50 > 15900 mg/kg bw (Rat)	-	LC50 > 0.888 mg/L/4 h (Rat)
Zinc oxide (CAS #: 1314-13-2)	> 5000 mg/kg (Rat)	> 2000 mg/kg bw (Rat)	> 1.79 mg/L air 4h (Rat)

Skin corrosion/irritation: Not irritating to the skin under normal conditions of use.

Serious eye damage/irritation: No eye irritation observed.

Respiratory or skin sensitization: No sensitization responses were observed.

Germ cell mutagenicity: No further relevant information available.

Carcinogenicity: No further relevant information available.

Reproductive toxicity: No further relevant information available.

STOT-single exposure: No further relevant information available.

STOT-repeated exposure: No further relevant information available.

Aspiration hazard: No further relevant information available.

11.2 Information on other hazards

Endocrine disrupting properties: None of the ingredients are identified as having endocrine disrupting properties according to Regulation (EC) No 1272/2008.

Other information: No further relevant information available

Section 12: Ecological Information

12.1 Toxicity

Chemical Name	Algae/aquatic plants EC50	Fish LC50	Crustacea EC50
Aluminum (CAS #: 7429-90-5)	-	> 50 mg/L/96h	-
Zinc oxide (CAS #: 1314-13-2)	2.36 mg/L 96h Skeletonema costatum 2.97 mg/L 96h Skeletonema costatum 1.85 mg/L 96h Skeletonema costatum 1.23 mg/L 96h Skeletonema costatum	1.1 mg/L 96h 23.06 mg/L 84h Danio rerio	0.098 mg/L 48h Daphnia magna 1.55 mg/L 48h Daphnia magna 3.3 mg/L 48h Daphnia magna

12.2 Persistence and degradability

No specific data available; not expected to be readily biodegradable.

12.3 Bioaccumulative potential
No specific data available; components are not expected to bioaccumulate significantly.

12.4 Mobility in soil
No specific data available; components are expected to have low mobility in soil.

12.5 Results of PBT and vPvB assessment
A chemical safety assessment has not been conducted; therefore, PBT/vPvB assessment information is not available.

12.6 Endocrine disrupting properties
This product does not contain substances identified as having endocrine disrupting properties for the environment according to Regulation (EC) No 1272/2008.

12.7 Other adverse effects
No other adverse environmental effects are known.

Section 13: Disposal Considerations

13.1 Waste treatment methods

Waste from residues/unused products: Disposal should be in accordance with applicable regional, national, and local laws and regulations. Do not dispose together with household waste. Prevent release to sewage systems.

Contaminated packaging: Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Section 14: Transport Information

14.1 UN number or ID number
ADR/RID/ADN, IMDG, IATA — UN3082

14.2 UN proper shipping name
ADR/RID/ADN, IMDG, IATA — Environmentally hazardous substance, liquid, n.o.s. (contains zinc oxide)

14.3 Transport hazard class(es)
ADR/RID/ADN, IMDG, IATA — Class 9

14.4 Packing group
ADR/RID/ADN, IMDG, IATA — III

14.5 Environmental hazards
Marine pollutant

14.6 Special precautions for user
Not applicable

14.7 Maritime transport in bulk according to IMO instruments
Not applicable

14.8 Transport/Additional information:
This product may be exempted from full dangerous goods requirements under Special Provision 375 when packaged in quantities ≤ 5 kg per inner packaging.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union

- ***Directive 2012/18/EU (Seveso III)***
  Named dangerous substances - ANNEX I: None of the ingredients is listed.
  Seveso category: Not applicable
  Qualifying quantity (tonnes) for the application of lower-tier requirements: Not applicable
  Qualifying quantity (tonnes) for the application of upper-tier requirements: Not applicable
- ***Regulation (EU) 2019/1021 on persistent organic pollutants (POP)***
  None of the ingredients is listed.
- ***Regulation (EU) No 649/2012 (PIC)***
  None of the ingredients is listed.
- ***Regulation (EU) 2019/1148 on Explosives Precursors***
  ANNEX I – Restricted Explosives Precursors: None of the ingredients is listed.
  ANNEX II – Reportable Explosives Precursors: Aluminum ((CAS 7429-90-5)
- ***Regulation (EC) No 273/2004 on Drug Precursors***
  None of the ingredients is listed.
- ***Regulation (EC) No 111/2005 Trade in Drug Precursors***
  None of the ingredients is listed.
- ***Regulation (EC) No 1005/2009 on Substances that Deplete the Ozone Layer***
  None of the ingredients is listed.
- ***REACH Regulation***
  - SVHC Candidate List: None of the ingredients is listed.
  - ANNEX XIV Authorisation List: None of the ingredients is listed.
  - ANNEX XVII Restriction: None of the ingredients is listed.
- ***Worker Protection Directives:***
  - Directive 98/24/EC on the protection of workers from risks related to chemical agents at work.
  - Directive 94/33/EC on the protection of young people at work.
  - Directive 92/85/EC on the protection of pregnant and breastfeeding women at work.

International Inventories

Component	TSCA	DSL/NDSL	ENCS	IECSC	KECL	PICCS	AICS
Aluminum (CAS #: 7429-90-5, 72.7%)	X	X	Exempt	X	X	X	X
Zinc oxide (CAS #: 1314-13-2, 19.7%)	X	X	X	X	X	X	X

Legend: "X" = Listed; "–" = Not listed; "Exempt" = Exempted from listing.

15.2 Chemical safety assessment:

A chemical safety assessment has not been carried out.

Section 16: Other Information

Indication of changes:
Version 1.0: Initial issue. Formerly R01
Version 1.1: Periodic review and revision. Formerly R02
Version 1.2: Periodic review and revision. Formerly R03
Version 2.0: General format update and content corrections

The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, 1272/2008 and Regulation (EU) No 2020/878.

DISCLAIMER OF LIABILITY
The information provided in this Safety Data Sheet is, to the best of our knowledge, accurate and reliable. However, the conditions or methods of handling, storage, use, or disposal of the product are beyond our control and may also be beyond our knowledge. For this reason, we do not assume responsibility and expressly disclaim liability for any loss, damage, or expense arising from or in any way connected with the handling, storage, use, or disposal of the product. This SDS has been prepared for and is intended to apply only to this product. If the product is used as a component in another product, the information contained herein may not be applicable.

Key or legend to abbreviations and acronyms used in the safety data sheet:

ADR	Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstracts Service (division of the American Chemical Society)
Ceiling	Maximum limit value
DNEL	Derived No-Effect Level (REACH)
DSL/NDSL	Canadian Domestic Substances List/Non-Domestic Substances List
IECSC	China Inventory of Existing Chemical Substances
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ENCS	Japan Existing and New Chemical Substances
IATA	International Air Transport Association
IMDG	International Maritime Code for Dangerous Goods
KECL	Korean Existing and Evaluated Chemical Substances
LC50	Lethal concentration, 50 percent
LD50	Lethal dose, 50 percent
PBT	Persistent, Bioaccumulative and Toxic
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PNEC	Predicted No-Effect Concentration (REACH)
STEL	Short Term Exposure Limit
TSCA	United States Toxic Substances Control Act Section 8(b) Inventory
TWA	Time-weighted average

vPvB very Persistent and very Bioaccumulative

Full text of H-Statements referred to under section 3

H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects
H228 Flammable solid
H261 In contact with water releases flammable gases

---------- End of Safety Data Sheet ----------