


XIAMETER(R) AFE-0120 ANTIFOAM EMULSION

[This MSDS is prepared pursuant to the provision of Article 41 of the Industrial Safety and Health Law]

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

1.1 Product Name:	XIAMETER(R) AFE-0120 ANTIFOAM EMULSION
1.2 Manufacturer's Product Code:	04107522
1.3 Chemical Classification:	Silicone emulsion
1.4 Recommended Product Usage and Limited Use:	Antifoam
1.5 Company Details:	
Manufacturer/Supplier:	Dow Corning Korea Ltd.
Address:	690-1 Kwanghaewon-ri, Kwanghaewon-myon, Jinchon-kun, Chungbuk, Korea
Telephone Number:	043-539-1114
Emergency Telephone Number:	043-539-1129

2. HAZARD IDENTIFICATION

2.1 Hazard Classification:	Skin sensitization: Category 1
2.2 Label Elements Including Precautionary Statements:	
Symbol:	
Signal Word:	Warning
Hazard Risk Statement:	May cause an allergic skin reaction.
Precautionary Statement:	
Prevention:	Avoid breathing dust/fume/gas/mist/vapours/spray. Contaminated work clothing should not be allowed out of the workplace. Wear suitable protective clothing and gloves. Avoid contact with skin and eyes.
Response:	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take necessary specific treatment. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage:	Not applicable.
Disposal:	Dispose of contents/container by the special waste disposal trader who receives the permission of metropolis and districts governor.
2.3 Other Hazard. Risk which are not included in the classification	None known.

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criteria:

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Common Name or Synonym</u>	<u>CAS No.</u>	<u>% (w/w)</u>	<u>GHS Classification</u>
Treated amorphous silica	-	-	1 - <5	Not hazardous.
Hydroxyethyl cellulose	-	9004-62-0	1 - <5	Not hazardous.
5-Chloro-2-methyl-3(2H)-isothiazolone, mixt. with 2-methyl-3(2H)-isothiazolone	-	55965-84-9	<0.1	Acute toxicity (Oral): Category 3 Acute toxicity (Dermal): Category 3 Acute toxicity (Inhalation - vapour): Category 3 Skin corrosion/irritation: Category 1B Serious eye damage/eye irritation: Category 1 Skin sensitization: Category 1 Acute aquatic hazard: Category 1 Chronic aquatic hazard: Category 1

Other ingredients not listed in this section are non-hazardous or business confidential.

4. FIRST AID MEASURES

- 4.1 If in Eyes:** Immediately flush with water.
- 4.2 If on Skin:** Remove from skin and immediately flush with water for 15 minutes. Get medical attention if irritation or ill effects develop or persist.
- 4.3 If Inhaled:** Remove to fresh air.
- 4.4 If Ingested:** Get medical attention.
- 4.5 Other Note to physicians:** Treat according to person's condition and specifics of exposure. Treat symptomatically. For further information, the Medical Practitioner should refer to the phone number in Section 1.

5. FIRE-FIGHTING MEASURES

- 5.1 Suitable (and Unsuitable) Extinguishing Media:**
 - Suitable:** On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO₂), dry chemical or water spray. Water can be used to cool fire exposed containers.
 - Unsuitable:** None established.
- 5.2 Specific Hazards Arising from the Chemical(e.g. nature of any Hazardous Combustion Products):** Silicon dioxide. Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde. Metal oxides.

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5.3 Special Protective Equipment and Precautions for Fire-Fighters:	Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool. Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals.
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6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions and Protective Equipment:	Avoid skin and eye contact. Do not take internally.
6.2 Environmental Precautions:	Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers.
6.3 Methods for Cleaning up:	Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protective equipment recommendations described in this MSDS. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbant. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which laws and regulations are applicable.

7. HANDLING AND STORAGE

7.1 Handling Precautions:	Use with adequate ventilation. Avoid skin and eye contact. Do not take internally. Remove contaminated clothing immediately. Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking.
7.2 Storage Conditions (including any incompatibilities):	Use reasonable care and store away from oxidizing materials.

8. PREVENTIVE MEASURES/PERSONAL PROTECTIVE EQUIPMENT

8.1 Occupational Exposure Limit Values, Biological Limit Values:

Industrial Hygiene Standards:

<u>Ingredients</u>	<u>CAS No.</u>	<u>Exposure Limits</u>
Treated amorphous silica	-	Dow Corning guide: 5 mg/m3 Ceiling (as dust).
Hydroxyethyl cellulose	9004-62-0	Observe particulate limits. OSHA PEL: TWA 15 mg/m3 total dust, 5 mg/m3 respirable fraction. ACGIH TLV: TWA 10 mg/m3 inhalable particulate, 3 mg/m3 respirable particulate.
5-Chloro-2-methyl-3(2H)-isothiazolone, mixt. with 2-methyl-3(2H)-isothiazolone	55965-84-9	None established.

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8.2 Engineering Controls:

Local Ventilation: None should be needed.

General Ventilation: Recommended.

8.3 Personal Protective Equipment:

Routine Handling:

Respiratory protection: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Eye protection: Use proper protection - safety glasses as a minimum.

Hand protection: Chemical protective gloves should be worn.

Skin protection: Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.

Hygiene Measures: Remove contaminated clothing immediately. Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking.

Spills:

Respiratory protection: No respiratory protection should be needed.

Eye protection: Use proper protection - safety glasses as a minimum.

Skin protection: Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.

Precautionary Measures: Avoid skin and eye contact. Do not take internally. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Corning customer service group.

9. PHYSICAL AND CHEMICAL PROPERTIES

- | | |
|---|-------------------------------|
| 9.1 Appearance(physical state, colour etc): | Liquid
White |
| 9.2 Odour: | Some odor |
| 9.3 Odour Threshold: | Not determined. |
| 9.4 pH: | Not determined. |
| 9.5 Melting Point/ Freezing Point: | Not determined. |
| 9.6 Initial Boiling Point and Boiling Range: | > 35 °C |
| 9.7 Flash Point: | > 100 °C (Cleveland Open Cup) |

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9.8	Evaporation Rate:	Not determined.
9.9	Flammability (solid, gas):	Not applicable.
9.10	Upper/ Lower Flammability or Explosive Limit:	
	Upper Limit:	Not determined.
	Lower Limit:	Not determined.
9.11	Vapor Pressure @ 25°C:	Not determined.
9.12	Solubility in Water:	Not determined.
9.13	Vapour Density (air=1):	Not determined.
9.14	Specific Gravity:	1.0
9.15	Octanol/water partition coefficient:	Not determined.
9.16	Autoignition Temperature:	Not determined.
9.17	Decomposition Temperature:	Not determined.
9.18	Viscosity:	2300 cSt
9.19	Molecular Weight:	Not determined.

The above information is not intended for use in preparing product specifications.

10. STABILITY AND REACTIVITY

10.1	Chemical Stability and Possibility of Hazardous Reactions:	Stable. Hazardous polymerization will not occur.
10.2	Conditions to avoid:	None.
10.3	Materials to avoid:	Can react with strong oxidising agents.
10.4	Hazardous Decomposition Products:	Silicon dioxide. Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde. Metal oxides.

11. TOXICOLOGICAL INFORMATION

11.1 Information on the likely Routes of Exposure:

Respiratory:	Exposure is expected.
Oral:	Exposure is expected.
Eye, Skin:	Exposure is expected.

11.2 Information on the Health Hazards

Acute Toxicity:

<u>CAS Number</u>	<u>Component Name</u>	<u>Acute Toxicity</u>
-	Treated amorphous silica	LD50: > 5,000 mg/kg - Oral Rat
9004-62-0	Hydroxyethyl cellulose	LD50: > 5,000 mg/kg - Oral Rat
55965-84-9	5-Chloro-2-methyl-3(2H)-isothiazolone, mixt. with 2-methyl-3(2H)-isothiazolone	LD50: 54 mg/kg - Oral Rat

Eyes: Direct contact may cause temporary redness and discomfort.

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Skin:	Repeated skin contact may cause allergic skin reaction.
Inhalation:	Irritates respiratory passages very slightly.
Ingestion:	Low ingestion hazard in normal use.
Chronic Toxicity:	
Skin:	Repeated or prolonged exposure may cause irritation.
Inhalation:	No known applicable information.
Ingestion:	Repeated ingestion or swallowing large amounts may injure internally.
Other Health Hazard Information:	No known applicable information.
Skin Corrosion/ Irritation:	Please refer to Section 3.
Serious Eye Damage/ Irritation:	Please refer to Section 3.
Respiratory Sensitization:	Please refer to Section 3.
Skin Sensitization:	Please refer to Section 3.
Carcinogenicity:	None known.
Germ Cell Mutagenicity:	Please refer to Section 3.
Reproductive Toxicity:	Please refer to Section 3.
Specific Target Organ. Systemic Toxicity (Single Exposure):	Please refer to Section 3.
Specific Target Organ. Systemic Toxicity (Repeated Exposure):	Please refer to Section 3.
Aspiration Hazard:	Please refer to Section 3.

12. EFFECTS ON THE ENVIRONMENT

12.1 Ecotoxicity:

Environmental Effects

Acute: No adverse effects on aquatic organisms.

Chronic: No adverse effects on aquatic organisms.

12.2 Persistence and Degradability:

Degradation: In soil, siloxanes are degraded.

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Environmental Fate and Distribution: Siloxanes are removed from water by sedimentation or binding to sewage sludge.

12.3 Bioaccumulative Potential:

Bioaccumulation: No bioaccumulation potential.

12.4 Mobility in Soil: None known.

12.5 Additional Environmental Information:

Degradation: Additional environmental information on the silicone component is available on request.

Fate and Effects in Waste Water Treatment Plants: No adverse effects on bacteria. Removed > 90% by binding onto sewage sludge. The siloxanes in this product do not contribute to the BOD.

13. DISPOSAL CONSIDERATIONS

13.1 Product Disposal: Dispose of in accordance with local regulations.

13.2 Disposal precaution: Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

14.1 Sea transport (IMDG):

UN No.: Not subject to IMDG code.
Class: Not subject to IMDG code.
Packing Group: Not subject to IMDG code.
Proper Shipping Name: Not subject to IMDG code.
Technical Name: Not subject to IMDG code.
Marine Pollutant (Yes/No): Not subject to IMDG code.
Hazard Label(s): Not subject to IMDG code.

14.2 Transportation Precautions:

Transport in accordance with the relevant regulations. Refer to section 7.2 for further information on transportation requirements. Refer to section 6 for the safety measures to be taken in the event of accidental release.

14.3 Other International Transportation Regulations

Air Transport (IATA-DGR):

UN No.: Not subject to IATA regulations.
Class: Not subject to IATA regulations.
Packing Group: Not subject to IATA regulations.
Proper Shipping Name: Not subject to IATA regulations.
Technical Name: Not subject to IATA regulations.
Hazard Label(s): Not subject to IATA regulations.

15. REGULATORY INFORMATION

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15.1 Classification and labelling in accordance with Industrial Safety and Health Law:

Harmful Substances Prohibited from Manufacturing:

No subject chemicals

Harmful Substances Requiring Permission:

No subject chemicals

Controlled Hazardous Substances:

No subject chemicals

15.2 Chemicals controlled in accordance with Toxic Chemicals Control Act:

Toxic Chemicals:

No subject chemicals

Observational Chemicals:

No subject chemicals

Prohibited Chemicals:

No subject chemicals

Restricted Toxic Chemicals:

No subject chemicals

Korean TRI Chemicals:

No subject chemicals

Accident Release Prevention Chemicals:

No subject chemicals

15.3 Hazardous Material Safety Management Act:

Classification: Not applicable for Korea Fire Law.

15.4 Wastes Management Act: Product should be disposed of in accordance with Waste Management Law Article 13.

15.5 Other Local or International Regulations:

Chemical Inventories:

EINECS: All ingredients listed or exempt.
AICS: All ingredients listed or exempt.
IECSC: All ingredients listed or exempt.
ENCS/ISHL: All components are listed on ENCS/ISHL or its exempt rule.

XIAMETER(R) Material Safety Data Sheet

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PICCS:	All ingredients listed or exempt.
TSCA:	For R&D purposes only. One or more of the components of this product may not be listed on the TSCA inventory of chemical substances. Product should be used solely for scientific experimentation, research or analysis under the supervision of technically qualified individuals.
KECL:	All ingredients listed, exempt or notified.
HSNO:	All ingredients listed or exempt.
DSL:	Not determined.

16. OTHER INFORMATION

Information Source:	Dow Corning Corporation
Preparation Department:	Product Safety & Regulatory Compliance Team
First Issuing Date:	2011/09/29
Revision No:	2
Latest Revision Date:	2011/11/14
Others:	Not determined.

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

XIAMETER(R) is a trademark of Dow Corning Corporation

<http://www.xiameter.com>