



Safety Data Sheet
Prepared in Accordance with HCS 29
C.F.R. 1910.1200

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1	Product Identifier	4502A1NL	Revision Date:	02/08/2024
	Product Name:	ARMORLAST II PART A	Supercedes Date:	06/27/2023
1.2	Relevant identified uses of the substance or mixture and uses advised against	Component of multicomponent industrial coatings - Industrial use. Advised against: others than recommended		
1.3	Details of the supplier of the safety data sheet			
	Manufacturer:	Carboline Global Inc. 2150 Schuetz Road St. Louis, MO USA 63146		
		Regulatory / Technical Information: Contact Carboline Technical Services at 1-800-848-4645		
	Datasheet Produced by:	Schlereth, Ken - regulatory@carboline.com		
1.4	Emergency telephone number:	CHEMTREC 1-800-424-9300 (Inside US) CHEMTREC +1 703 5273887 (Outside US) HEALTH - Pittsburgh Poison Control 1-412-681-6669		

2. Hazard Identification

2.1 Classification of the substance or mixture

Acute Toxicity, Inhalation, category 4
Carcinogenicity, category 1A
Eye Irritation, category 2
Flammable Liquid, category 2
STOT, repeated exposure, category 1
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product



Signal Word

Danger

Named Chemicals on Label

PARACHLOROBENZO TRIFLUORIDE, TERT-BUTYL ACETATE, ETHYL POLYSILICATE, MICROCRYSTALLINE SILICA

HAZARD STATEMENTS

Flammable Liquid, category 2	H225	Highly flammable liquid and vapour.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
Carcinogenicity, category 1A	H350-1A	May cause cancer.
STOT, repeated exposure, category 1	H372	Causes damage to organs through prolonged or repeated exposure.

PRECAUTION PHRASES

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P235	Keep cool.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+313	IF exposed or concerned: Get medical advice/attention
P314	Get medical advice/attention if you feel unwell.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous ingredients

<u>Name According to EEC</u>	<u>EINEC No.</u>	<u>CAS-No.</u>	<u>%</u>	<u>Classifications</u>
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MICROCRYSTALLINE SILICA	238-878-4	14808-60-7	25 - <50	H350-372	Carc. 1A, STOT RE 1
ALKYL SILICATE		EPA ACC # 102079	10 - <25		
MICA	310-127-6	12001-26-2	2.5 - <10	H319-335	Eye Irrit. 2, STOT SE 3 RTI
ETHYL ALCOHOL	200-578-6	64-17-5	2.5 - <10	H225	Flam. Liq. 2
DIMETHYL CARBONATE	210-478-4	616-38-6	2.5 - <10	H225-361	Flam. Liq. 2, Repr. 2
PARACHLOROBENZO TRIFLUORIDE	202-681-1	98-56-6	2.5 - <10	H226-315-317-319-335	Eye Irrit. 2, Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, STOT SE 3 RTI
TERT-BUTYL ACETATE	208-760-7	540-88-5	2.5 - <10	H225-332-335-336	Acute Tox. 4 Inhalation, Flam. Liq. 2, STOT SE 3 NE, STOT SE 3 RTI
TITANIUM DIOXIDE	236-675-5	13463-67-7	1.0 - <2.5		
PROPYLENE GLYCOL MONOMETHYL ETHER	203-539-1	107-98-2	1.0 - <2.5	H226-319-332-336	Acute Tox. 4 Inhalation, Eye Irrit. 2, Flam. Liq. 3, STOT SE 3 NE
AMORPHOUS SILICA	231-545-4	7631-86-9	1.0 - <2.5		
ETHYL POLYSILICATE	234-324-0	11099-06-2	1.0 - <2.5	H319-332-335-411	Acute Tox. 4 Inhalation, Aquatic Chronic 2, Eye Irrit. 2, STOT SE 3 RTI

CAS-No. M-Factors
 14808-60-7
 EPA ACC #
 102079
 12001-26-2
 64-17-5
 616-38-6
 98-56-6
 540-88-5
 13463-67-7
 107-98-2
 7631-86-9
 11099-06-2

Remarks: CAS No 13463-67-7: Note 10

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

When symptoms persist or in all cases of doubt seek medical advice.

5. Fire-fighting Measures**5.1 Extinguishing Media:**

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Provide adequate ventilation. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Electrical installations / working materials must comply with the technological safety standards. Wear shoes with conductive soles.

FOR SAFETY REASONS NOT TO BE USED: Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

SPECIAL FIREFIGHTING PROCEDURES: In the event of fire, wear self-contained breathing apparatus. Cool containers / tanks with water spray. Flammable.

SPECIAL FIREFIGHTING PROTECTION EQUIPMENT: No Information

6. Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Wear personal protective equipment. For personal protection see section 8.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

No Information

7. Handling and Storage**7.1 Precautions for safe handling**

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Do not breathe vapours or spray mist. Ensure all equipment is electrically grounded before beginning transfer operations. Do not use sparking tools. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection. Wash thoroughly after handling.

PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, flames and sparks.

STORAGE CONDITIONS: Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

The mixing and application to be in accordance with the technical data sheets.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

<u>Name</u>	<u>CAS-No.</u>	<u>ACGIH TWA</u>	<u>ACGIH STEL</u>	<u>ACGIH Ceiling</u>
MICROCRYSTALLINE SILICA	14808-60-7	0.025 MGM3	N/E	N/E
ALKYL SILICATE	EPA ACC # 102079	N/E	N/E	N/E
MICA	12001-26-2	3 MGM3	N/E	N/E
ETHYL ALCOHOL	64-17-5	N/E	1000 PPM	N/E
DIMETHYL CARBONATE	616-38-6	N/E	N/E	N/E
PARACHLOROBENZO TRIFLUORIDE	98-56-6	N/E	N/E	N/E
TERT-BUTYL ACETATE	540-88-5	50 PPM	150 PPM	N/E
TITANIUM DIOXIDE	13463-67-7	10 mg/m3	N/E	N/E
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2	50 PPM	100 PPM	N/E
AMORPHOUS SILICA	7631-86-9	10.0 MG/M3	N/E	N/E
ETHYL POLYSILICATE	11099-06-2	N/E	N/E	N/E

<u>Name</u>	<u>CAS-No.</u>	<u>OSHA PEL</u>	<u>OSHA STEL</u>
MICROCRYSTALLINE SILICA	14808-60-7	0.05 MGM3	N/E
ALKYL SILICATE	EPA ACC # 102079	N/E	N/E
MICA	12001-26-2	20. MPPCF	N/E
ETHYL ALCOHOL	64-17-5	1900 MGM3, 1000 PPM	N/E
DIMETHYL CARBONATE	616-38-6	N/E	N/E
PARACHLOROBENZO TRIFLUORIDE	98-56-6	N/E	N/E
TERT-BUTYL ACETATE	540-88-5	950 MGM3, 200 PPM	N/E
TITANIUM DIOXIDE	13463-67-7	15 MGM3	N/E
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2	360 MGM3, 100 PPM	540 MGM3, 150 PPM
AMORPHOUS SILICA	7631-86-9	15.0 mg/m3	N/E

ETHYL POLYSILICATE

11099-06-2

N/E

N/E

FURTHER ADVICE: Refer to the regulatory exposure limits for the workforce enforced in each country. Some components may not have been classified under the EU CLP Regulation.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location.

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Viscous Liquid, Various Colors

Physical State Liquid

Odor Aromatic

Odor threshold Not Determined

pH Not Determined

Melting point / freezing point (°C) Not Determined

Boiling point/range (°C) 149 F (65 C) - 336 F (169 C)

Flash Point (°C) 39°F (4°C)

Evaporation rate Slower Than Ether

Flammability (solid, gas) Not Determined

Upper/lower flammability or explosive limits 0.9 - 36.0

Vapour Pressure, mmHg Not Determined

Vapour density Heavier than Air

Relative density Not Determined

Solubility in / Miscibility with water Not Determined

Partition coefficient: n-octanol/water Not Determined

Auto-ignition temperature (°C) Not Determined

Decomposition temperature (°C) Not Determined

Viscosity Not Determined

Explosive properties Not Determined

Oxidising properties Not Determined

9.2 Other information

VOC Content g/l: 234

Specific Gravity (g/cm3) 1.59

10. Stability and Reactivity**10.1 Reactivity**

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

11. Toxicological Information**11.1 Information on toxicological effects****Acute Toxicity:**

Oral LD50: No information on the product itself as the product is not tested

Inhalation LC50: No information on the product itself as the product is not tested

Irritation: Eye Irritation, category 2A

Corrosivity: Unknown

Sensitization: Skin Sensitizer, category 1

Repeated dose toxicity: Unknown

Carcinogenicity: Carcinogenicity, category 1A

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

STOT-single exposure: STOT, single exposure, category 3, RTI

STOT-repeated exposure: STOT, repeated exposure, category 1

Aspiration hazard: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.
Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>	<u>Gas LC50</u>	<u>Dust/Mist LC50</u>
14808-60-7	MICROCRYSTALLINE SILICA	22500 mg/kg	No Information	No Information	No Information	No Information
EPA ACC # 102079	ALKYL SILICATE	Not Available		Not Available	0.000	0.000
12001-26-2	MICA	No Information	No Information	No Information	No Information	No Information
64-17-5	ETHYL ALCOHOL	7060 mg/kg, oral, rat	No Information	20000 ppm/10 hrs, rat, inhalation	No Information	No Information
616-38-6	DIMETHYL CARBONATE	12900 mg/kg, oral, rat	>2000 mg/kg, dermal, rabbit	Not Available	0.000	0.000
98-56-6	PARACHLOROBENZO TRIFLUORIDE	6800 mg/kg, oral, rat	3300 mg/kg, dermal, rabbit	4479 ppm	0.000	0.000
540-88-5	TERT-BUTYL ACETATE	3160 mg/kg, oral, rat	Not Available	4000 ppm/6 hours, rat inhalation	0.000	0.000
13463-67-7	TITANIUM DIOXIDE	25000 mg/kg, oral (rat)	No Information	No Information	No Information	No Information
107-98-2	PROPYLENE GLYCOL MONOMETHYL ETHER	4016 mg/kg, oral, rat	13536 mg/kg, dermal, rabbit	10000 ppm/4hrs rat, inhalation	0.000	0.000
11099-06-2	ETHYL POLYSILICATE	Not Available		Not Available	0.000	0.000

Additional Information:

Constituents of this product may include crystalline silica which, if inhalable, may cause silicosis, a form of progressive pulmonary fibrosis. Inhalable crystalline silica is listed by IARC as a group 1 carcinogen (lung) based on sufficient evidence in occupationally exposed humans and sufficient evidence in animals. Crystalline silica is also listed by the NTP as a known human carcinogen. This classification is relevant when exposed to Quartz (silicon dioxide) in dust or powder form only, including cured product that is subject to sanding, grinding, cutting, or other surface preparation activities. Constituents may also include asbestos or non-asbestiform tremolite or other silicates as impurities, and above de minimis exposure to these impurities in inhalable form may be carcinogenic or cause other serious lung problems.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): No information available.

IC50 72hr (Algae): No information available.

LC50 96hr (fish): No information available.

12.2 Persistence and degradability: No information available.**12.3 Bioaccumulative potential:** No information available.**12.4 Mobility in soil:** No information available.**12.5 Results of PBT and vPvB assessment:** The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.**12.6 Other adverse effects:** No information available.

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
14808-60-7	MICROCRYSTALLINE SILICA	No information	No information	No information

EPA ACC # 102079	ALKYL SILICATE	No information	No information	No information
12001-26-2	MICA	No information	No information	No information
64-17-5	ETHYL ALCOHOL	2 mg/l (Daphnia Magna)	No information	42 mg/l (fish)
616-38-6	DIMETHYL CARBONATE	100 mg/l (Daphnia magna)	100 mg/l (Algae)	100 mg/l (Zebra Fish)
98-56-6	PARACHLOROBENZO TRIFLUORIDE	2 mg/l (Daphnia magna)	No information	3 mg/l (Zebra fish)
540-88-5	TERT-BUTYL ACETATE	No information	No information	No information
13463-67-7	TITANIUM DIOXIDE	No information	No information	No information
107-98-2	PROPYLENE GLYCOL MONOMETHYL ETHER	23300 mg/l (Water flea)	No information	20800 mg/l (Fish)
7631-86-9	AMORPHOUS SILICA	No information	10000 mg/l (Algae)	10000 mg/l (Zebra fish)
11099-06-2	ETHYL POLYSILICATE	No information	No information	No information

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1 UN number	UN1263
14.2 UN proper shipping name	Paint
Technical name	No Information
14.3 Transport hazard class(es)	3
Subsidiary shipping hazard	No Information
14.4 Packing group	II
14.5 Environmental hazards	No information available.
14.6 Special precautions for user	No information available.
EmS-No.:	F-E,S-E
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	No information available.

15. Regulatory Information

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

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Flammable (gases, aerosols, liquids, or solids), Carcinogenicity, Acute Toxicity (any route of exposure), Respiratory or Skin Sensitization, Serious eye damage or eye irritation, Specific target organ toxicity (single or repeated exposure)

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS-No.</u>	<u>%</u>
CHROME ANTIMONY COMPOUND	68186-90-3	0.11

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations: As follows -**New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

<u>Chemical Name</u>	<u>CAS-No.</u>
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No NJ Right-To-Know components exist in this product.

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

No PA Right-To-Know components exist in this product.

CALIFORNIA PROPOSITION 65

WARNING: Cancer and Reproductive Harm -- www.P65Warnings.ca.gov

International Regulations: As follows -*** Canadian DSL:**

All chemical ingredients included on inventory (DSL)

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information**Text for GHS Hazard Statements shown in Section 3 describing each ingredient:**

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Reasons for revision

No Information

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.