



MATERIAL SAFETY DATA SHEET

ARMOR Shield® Product Line: Dry Coat™ Rust Preventative with VCI

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Dry Coat™ Rust Preventative with VCI
PRODUCT USE : WATER BASED RUST PREVENTATIVE LIQUID
COMPANY IDENTIFICATION : ARMOR Protective Packaging®
951 Jones Street, Howell, MI 48844
TELEPHONE NUMBER : (800) 365-1117

NFPA 704M/HMIS RATING

HEALTH : 1 / 2 FLAMMABILITY : 1 / 1 REACTIVITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Substances(s)	CAS #	% (w/w)
Our evaluation has found that this product is not hazardous under 29 CFR 1910.1200		

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION

May cause irritation with prolonged contact. Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. Keep container tightly closed. Flush affected area with water.

May evolve oxides of carbon (COx) and oxides of nitrogen (NOx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE : Eye, Skin

EYE CONTACT : May cause moderate irritation.

SKIN CONTACT : May cause moderate irritation.

INHALATION : Not a likely route of exposure. No adverse effects expected. Aerosols or product mist may irritate the upper respiratory tract.

INGESTION : Not a likely route of exposure. No adverse effects expected.

SYMPTOMS OF EXPOSURE :

Acute : A review of available data does not identify any symptoms from exposure not previously mentioned.

Chronic : A review of available data does not identify any symptoms from exposure not previously mentioned. AGGRAVATION

OF EXISTING CONDITIONS : A review of available data does not identify any worsening of existing conditions.

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4. FIRST AID MEASURES

EYE & SKIN CONTACT :

Flush affected area with water for at least 15 minutes while holding eyelids open. If irritation persists, repeat flushing. Get medical attention.

INGESTION :

Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If symptoms develop seek medical attention.

INHALATION :

Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN :

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : >200 F (> 93.3 C)

EXTINGUISHING MEDIA :

This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire. Keep containers cool by spraying with water.

FIRE AND EXPLOSION HAZARD :

May evolve oxides of carbon (COx) and oxides of nitrogen (NOx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so.

METHODS FOR CLEANING UP:

SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. **LARGE SPILLS:** Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS:

Do not contaminate surface water.



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7. HANDLING AND STORAGE

HANDLING :

Avoid eye and skin contact. Do not take internally. Do not get into eyes, on skin, or clothing. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled. Keep the containers closed when not in use.

STORAGE CONDITIONS :

Store the containers tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<p>OCCUPATIONAL EXPOSURE LIMITS : Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below: ACGIH/TLV: Diethylethanolamine TWA: 2 ppm, 9.6 mg/3 (Skin) OSHA/PEL: Diethylethanolamine TWA 10 ppm, 50 mg/m3 (Skin)</p>	<p>SKIN PROTECTION : Wear standard protective clothing.</p>
<p>ENGINEERING MEASURES : General ventilation is recommended.</p>	<p>EYE PROTECTION : Wear chemical splash goggles.</p>
<p>RESPIRATORY PROTECTION : Respiratory protection is not normally needed.</p>	<p>HYGIENE RECOMMENDATIONS : Keep an eye wash fountain available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.</p>
<p>HAND PROTECTION : Neoprene, Nitrile, Butyl, PVC, or Natural Rubber gloves.</p>	

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid	pH (100 %)	8.1
APPEARANCE	Clear Amber	VAPOR PRESSURE	20 mm Hg @ 70 F
ODOR	Bland	EVAPORATION RATE	<1 (BuAc = 1)
SPECIFIC GRAVITY	1.006	VAPOR DENSITY	0.6 (Air = 1)
DENSITY	8.4 lb/gal	VOC CONTENT	1% EPA Method 24
SOLUBILITY IN WATER	Complete		

Note: These physical properties are typical values for this product and are subject to change.



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10. STABILITY AND REACTIVITY

STABILITY : Stable under normal conditions.	CONDITIONS TO AVOID : Freezing temperatures.
HAZARDOUS POLYMERIZATION : Hazardous polymerization will not occur.	MATERIALS TO AVOID : None known

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon and nitrogen

11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

SENSITIZATION:
This product is not expected to be a sensitizer.

CARCINOGENICITY:
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :
No toxicity studies have been conducted on this product.

MOBILITY:
The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment
<5%	30-50%	30-50%

The portion in water is expected to be soluble or dispersible.

BIOACCUMULATION POTENTIAL:
This preparation or material is not expected to bioaccumulate.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low
If released into the environment, see CERCLA/SUPERFUND in Section 15.



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13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are:

LAND TRANSPORT :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200: Based on our hazard evaluation, none of the substances in this product are hazardous.

CERCLA/SUPERFUND, 40 CFR 117, 302: Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313.

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370): The product should be reported under the following indicated EPA hazard categories: Immediate (Acute) Health Hazard. Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals.

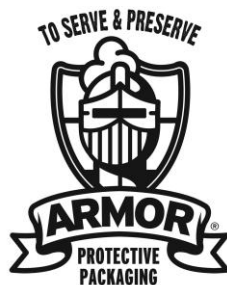
The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) : This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA): The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

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FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311: None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances): None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65: This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS: None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS: Diethylethanolamine 100-37-8.

NATIONAL REGULATIONS, CANADA:

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS):

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contain all the information required by the CPR.

WHMIS CLASSIFICATION: D2B- Materials causing other toxic effects – Toxic Material.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) : The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

16.	OTHER INFORMATION
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This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CDROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs),

North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

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