



Safety Data Sheet

Issue Date: 21-Jun-2023

Revision Date: 23-Jun-2023

Version 1

1. IDENTIFICATION

Product identifier

Product Name ResinForce FlakeShield MVB UFC Hardener 2H - Part B

Other means of identification

SDS # RFFSBUFC1.1

Product Code RFFSBUFC

UN/ID No UN3267

Recommended use of the chemical and restrictions on use

Recommended Use Moisture Vapor Barrier Super-Fast Cure epoxy coating.

Details of the supplier of the safety data sheet

Supplier Address

ResinForce Products LLC
12 Pixley Industrial Parkway
Rochester, NY 14624
Phone: (585) 623-5075

Emergency telephone number

Emergency Telephone INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Clear liquid

Physical state Liquid

Classification

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Reproductive toxicity	Category 2

Signal Word

Danger

Hazard statements

Harmful if swallowed
Causes severe skin burns and eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Suspected of damaging fertility or the unborn child



Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not breathe dust/fume/gas/mist/vapors/spray
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing must not be allowed out of the workplace

Precautionary Statements - Response

Immediately call a poison center or doctor/physician
 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 or doctor/physician
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a poison center or doctor/physician
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth
 Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other hazards

Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Alkyl phenol Polyamine	Proprietary	10-90
Phenol, 4-nonyl-, branched	84852-15-3	8-14
2,2'-Diaminodiethylamine	111-40-0	2-5
Ethylenediamine Anhydrous	107-15-3	1-3
bis-(dimethylaminomethyl)phenol, 2,4,6-	71074-89-0	1-3

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
Skin Contact	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
Ingestion	Call a poison center or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms	Harmful if swallowed. Causes severe skin burns and eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Not determined.

Hazardous combustion products Smoke, fumes or vapors, and oxides of carbon.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Use personal protective equipment as required.
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Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Clean-Up	Absorb with inert material or sweep up, and then place in suitable container for chemical waste.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on Safe Handling	Handle in accordance with good industrial hygiene and safety practice. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing must not be allowed out of the workplace.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.
Incompatible Materials	Strong oxidizing agents. Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
2,2'-iminodi(ethylamine) 111-40-0	TWA: 1 ppm S*	(vacated) TWA: 1 ppm (vacated) TWA: 4 mg/m ³	TWA: 1 ppm TWA: 4 mg/m ³
Ethylene diamine 107-15-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 25 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m ³	IDLH: 1000 ppm TWA: 10 ppm TWA: 25 mg/m ³

Appropriate engineering controls

Engineering Controls	Apply technical measures to comply with the occupational exposure limits.
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Individual protection measures, such as personal protective equipment

Eye/Face Protection	Wear safety glasses with side shields (or goggles). Refer to 29 CFR 1910.133 for eye and face protection regulations.
Skin and Body Protection	Wear protective gloves and protective clothing. Refer to 29 CFR 1910.138 for appropriate skin and body protection.
Respiratory Protection	In case of insufficient ventilation, wear suitable respiratory equipment. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Not determined
Appearance	Clear liquid	Odor Threshold	Not determined
Color	Clear		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	
Melting point / freezing point	No data available	
Initial boiling point and boiling range	No data available	
Flash point	> 93 °C / 200 °F	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor Pressure	Not determined	
Vapor Density	No data available	
Relative Density	Not determined	
Water Solubility	Not determined	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	No data available	
Hyphen	Not determined	
Kinematic viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

This product will polymerize if mixed with an epoxy resin. Considerable heat can evolve.

Conditions to Avoid

Extreme temperatures.

Incompatible materials

Strong oxidizing agents. Acids.

Hazardous decomposition products

Nitrous gases, Isocyanates.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact	Avoid contact with eyes.
Skin Contact	Avoid contact with skin.
Inhalation	Do not inhale.
Ingestion	Harmful if swallowed.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
4-Nonylphenol, branched 84852-15-3	= 1300 mg/kg (Rat)	= 2000 mg/kg (Rabbit)	-
2,2'-iminodi(ethylamine) 111-40-0	= 1080 mg/kg (Rat)	= 672 mg/kg (Rabbit)	= 70 mg/L (Rat) 4 h
Ethylene diamine 107-15-3	= 637 mg/kg (Rat)	= 560 mg/kg (Rabbit)	= 14.7 mg/L (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Please see section 4 of this SDS for symptoms.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Causes severe skin burns.
Serious eye damage/eye irritation	Causes severe eye damage.
Sensitization	May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carcinogenicity	Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
Reproductive toxicity	Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Oral LD50	4,973.00 mg/kg
Dermal LD50	7,006.40 mg/kg
ATEmix (inhalation-dust/mist)	301.30 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
4-Nonylphenol, branched 84852-15-3	EC50: 0.36 - 0.48mg/L (96h, Pseudokirchneriella subcapitata) EC50: 0.16 - 0.72mg/L (72h, Pseudokirchneriella subcapitata) EC50: =1.3mg/L (72h, Desmodesmus subspicatus)	LC50: =0.135mg/L (96h, Pimephales promelas) LC50: =0.1351mg/L (96h, Lepomis macrochirus)	EC50: =0.14mg/L (48h, Daphnia magna)
2,2'-iminodi(ethylamine) 111-40-0	EC50: =1164mg/L (72h, Pseudokirchneriella subcapitata) EC50: =345.6mg/L (96h, Pseudokirchneriella subcapitata) EC50: =592mg/L (96h, Desmodesmus subspicatus)	LC50: =248mg/L (96h, Poecilia reticulata) LC50: =1014mg/L (96h, Poecilia reticulata)	EC50: =16mg/L (48h, Daphnia magna)
Ethylene diamine 107-15-3	EC50: =645mg/L (72h, Pseudokirchneriella subcapitata) EC50: =151mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 98.6 - 131.6mg/L (96h, Pimephales promelas) LC50: 191 - 254mg/L (96h, Pimephales promelas) LC50: =115.7mg/L (96h, Pimephales promelas) LC50: 180 - 560mg/L (96h, Poecilia reticulata)	EC50: =17mg/L (48h, Daphnia magna)

Persistence/Degradability

Not determined.

Bioaccumulation

There is no data for this product.

Mobility

Chemical name	Partition coefficient
4-Nonylphenol, branched 84852-15-3	5.4
2,2'-iminodi(ethylamine) 111-40-0	-1.3
Ethylene diamine 107-15-3	-1.221

Other adverse effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes

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

Contaminated Packaging

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

California Hazardous Waste Status

Chemical name	California Hazardous Waste Status
2,2'-iminodi(ethylamine) 111-40-0	Toxic
Ethylene diamine 107-15-3	Toxic

14. TRANSPORT INFORMATION**Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No	UN3267
Proper Shipping Name	Corrosive liquid, basic, organic, n.o.s. Tris-2,4,6-(Dimethylaminomethyl) phenol)
Transport hazard class(es)	8
Packing Group	III

IATA

	Please contact manufacturer for most current information
UN number or ID number	UN3267
Proper Shipping Name	Corrosive liquid, basic, organic, n.o.s. Tris-2,4,6-(Dimethylaminomethyl) phenol)
Transport hazard class(es)	8
Packing group	III

IMDG

UN number or ID number	UN3267
Proper Shipping Name	Corrosive liquid, basic, organic, n.o.s. Tris-2,4,6-(Dimethylaminomethyl) phenol)
Transport hazard class(es)	8
Packing Group	III
Marine Pollutant	This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION**International Inventories**

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Alkyl phenol Polyamine	X	ACTIVE	X	X	X	X	X	X	X
4-Nonylphenol, branched	X	ACTIVE	X	X	X	X	X	X	X
2,2'-iminodi(ethylamine)	X	ACTIVE	X	X	X	X	X	X	X
BIS(DIMETHYLAMINOMETHYL)PHENOL				X	X	X		X	
Ethylene diamine	X	ACTIVE	X	X	X	X	X	X	X

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Ethylene diamine 107-15-3	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
4-Nonylphenol, branched - 84852-15-3	84852-15-3	8-14	1.0

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ethylene diamine	5000 lb			X

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
2,2'-iminodi(ethylamine) 111-40-0	X	X	X
Ethylene diamine 107-15-3	X	X	X

16. OTHER INFORMATION

<u>NFPA</u>	Health hazards -	Flammability -	Instability -	Special hazards -
<u>HMIS</u>	Health hazards -	Flammability -	Physical hazards -	Personal Protection Not determined

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet