

SAFETY DATA SHEET

Date Prepared: 4/11/2014

Date Modified: 00/00/0000

Date Printed: 9/22/2017

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

MATERIAL IDENTITY:

NOVOC 4040-14
Vinyl Ester Resin

INFORMATION TELEPHONE:

920-803-1700

COMPANY:

Andara LLC
3687 Enterprise Drive
Sheboygan, WI 53083

EMERGENCY TELEPHONE:

CHEMTREC: 800-424-9300

2. HAZARDS IDENTIFICATION

GENERAL HAZARD STATEMENT

Exposure to this material may induce an allergic or sensitization reaction and aggravate systemic disease. Chronic effects of exposures may cause liver and kidney damage.

EMERGENCY OVERVIEW

OSHA HAZARDOUS

Target Organ Effect: Skin Sensitizer, Irritant

Target Organs: Kidney, Liver, Heart

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

| Health | | Environmental | | Physical |
|------------------------|-------------|----------------|--|----------------|
| Acute Toxicity, Dermal | Category 5 | Not Classified | | Not Classified |
| Skin Irritation | Category 2 | | | |
| Eye Irritation | Category 2A | | | |
| Skin Sensitization | Category 1 | | | |

Pictogram:



Signal Word

Warning

| Hazard Statements | Precautionary Statements |
|---|---|
| H303 + H313 May be harmful if swallowed or in contact with skin | P261 Avoid breathing dust/fume/gas/mist/vapours/spray. |
| H315 Causes Skin Irritation | P264 Wash skin thoroughly after handling. |
| H317 May cause allergic skin reaction | P280 Wear protective gloves/protective clothing/eye protection/face protection. |
| H319 Causes serious eye irritation | P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| | P302+P352 IF ON SKIN: Wash with plenty of soap and water. |
| | P501 Dispose of contents/container to an approved waste disposal plant. |

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization:

| Ingredient(s) | CAS Number | % (by weight) |
|---------------------|-------------|---------------|
| Vinyl Ester Polymer | Proprietary | 25 – 85 % |
| Monomer(s) | 868-77-9 | 15 – 75 % |

4. FIRST AID MEASURES

Eyes Contact: Can cause severe eye irritation. Symptoms include severe irritation, redness, tearing, blurred vision and corneal damage. Immediately flush eyes gently with large amounts of water for at least 15 minutes. Retract eyelids often. Get prompt medical attention.

Skin Contact: May be absorbed through the skin in harmful amounts. May cause skin sensitization, and allergic reaction which become evident upon re-exposure. Remove contaminated clothing. Wash the exposed area with mild soap and water. Flush w/lukewarm water for 15 minutes. Launder contaminated clothing before re-use. Seek medical attention if ill effect or irritation develops.

Ingestion: Can cause gastrointestinal irritation with nausea, vomiting and diarrhea. Do not induce vomiting. Never give anything by mouth to an unconscious person. Keep person warm, quiet and get medical attention.

Inhalation: If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention immediately.

Advice to physicians: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Conditions of Flammability

Not flammable or combustible.

Fire or excessive heat may result in rupture of container due to bulk polymerization. Heating may cause explosion.

Suitable extinguishing media

Dry Chemical, CO₂, alcohol resistant foam, water spray/water fog for cooling. USE WATER WITH CAUTION. Water may be ineffective in fighting the fire.

Hazardous Decomposition Products

Acrid smoke-fumes, carbon monoxide, carbon dioxide and perhaps other toxic vapors may be released during a fire involving this product.

Fire Fighting Instructions

Wear self contained breathing apparatus (pressure-demand MSHA/NIOSH) approved or equivalent and protective clothing. See Section 10 for decomposition products. Fight fire from safe distance/protected location. Water may be ineffective in firefighting due to low solubility. Use water spray/fog for cooling. Pressure relief system may plug with solids, increasing risk of overpressure. Notify authorities if liquid enters sewer/public waters.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Spilled or released material may polymerize and release heat/gases. Eliminate all ignition sources and ventilate area. Wear protective equipment during clean up (see Section 8).

Environmental Precautions

Prevent runoff from entering drains, sewers, or streams. Dispose/report per regulatory requirements.

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Methods and Materials for Containment and Cleaning Up

Spilled or released material may polymerize and release heat/gases. Eliminate all ignition sources and ventilate area. Do Not let product enter sewers. Dike and recover large spills. Soak up small spills with inert solids (such as vermiculite, clay) and sweep/shovel into vented disposal container. Wash spill area with a strong detergent and water solution; rinse with water but minimize water use during clean up. Dispose/report per regulatory requirements.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Unless inhibited, product can polymerize, raising temperature and pressure, possibly rupturing container. Check inhibitor content often, adding to bulk liquid if needed. Do not blanket or mix with oxygen-free gas as it renders inhibitor ineffective. Do not store at below 32F - inhibitor can separate as a solid. If frozen, warm and remix material gently (<90F).

Conditions for Safe Storage

Do not store at below 32F - inhibitor can separate as a solid. If frozen, warm and remix material gently (<90F). Prevent moisture contact. Store in tightly closed, properly vented containers away from: heat, sparks, open flame, strong oxidizers, radiation and other initiators. Prevent contamination by foreign materials. Use only non-sparking tools and limit storage time.

Decontamination Procedures

Follow standard plant procedures or supervisor's instructions for decontamination operations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

| HAZARDOUS COMPONENT | PEL | STEL | TLV | Other |
|---------------------|-----|------|-----|-------|
| Vinyl Ester Polymer | NE | NE | NE | NE |
| Monomer(s) | NE | NE | NE | NE |

Engineering Controls

Local exhaust ventilation may be required in addition to general room ventilation.

Respiratory Protections

Where exposure through inhalation may occur from use, NIOSH/MSHA approved respiratory protection equipment is recommended. If cured material is cut or sanded a NIOSH/MSHA particulate respirator is recommended.

Eye Protection

Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles or vapor. Contact lenses should not be worn.

Skin and Body Protection

When skin contact is possible, protective clothing including apron, sleeves, boots head and face protection should be worn. Wear chemical resistant gloves such as neoprene, rubber, latex, etc.

Other hygienic practices

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Other work practices

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Promptly remove soiled clothing and wash thoroughly before reuse. Shower after work using plenty of soap and water.

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9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------------------|--|
| Appearance | |
| Form | viscous liquid |
| Color | Straw to light yellow |
| pH | N/DA |
| Melting/Freezing Temperature | < - 60 C (-76 F) |
| Boiling Point | 67 C/ 153 F |
| Flash Point | 96 C/ 205 F closed cup |
| Ignition Temperature | N/DA |
| Autoignition Temperature | N/DA |
| Lower explosive limit N/AP | Upper explosive limit N/AP |
| Vapor Pressure | 0.1 mm Hg |
| Vapor Density (air=1) | >1 |
| Specific Gravity (water=1 @39.2F) | 1.12 at 25 C/77 F |
| Solubility | N/DA |
| Viscosity, Kinematic | AP varies with product mix cps at 25 C/77F |
| Percent Volatiles | Negligible |
| Evaporation Rate (Bac=1) | N/DA |
| Odor | Mild to sweet acrylic odor |
| Odor threshold | N/DA |

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under recommended storage conditions

Possibility of Hazardous Reactions

No data available.

Conditions to Avoid

High temperatures, localized heat sources (i.e., drum or band heaters), oxidizing conditions, freezing conditions, direct sunlight, ultraviolet radiation, inert gas blanketing

Materials to Avoid

Strong oxidizers, strong reducers, free radical initiators, inert gases, oxygen scavengers, peroxides.

Hazardous Decomposition Products

Acrid smoke-fumes, carbon monoxide, carbon dioxide and perhaps other toxic vapors may be released during a fire involving this product.

11. TOXICOLOGY INFORMATION

Acute Toxicity

Based on HEMA

| | | |
|-------------|--------|---------------|
| Oral LD50 | Rat | >5,000 mg/kg. |
| Dermal LD50 | Rabbit | >3,000 mg/kg |

Skin Corrosion/Irritation

| | | |
|------|--------|-------------------------|
| Skin | Rabbit | Irritating to skin 24 h |
|------|--------|-------------------------|

Serious Eye Damage/Eye Irritation

| | | |
|------|--------|--------------------|
| Eyes | Rabbit | Irritating to eyes |
|------|--------|--------------------|

Respiratory or Skin Sensitization

| | | |
|----------------------------------|--|-------------|
| Guinea pig, various test systems | | Sensitizing |
|----------------------------------|--|-------------|

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Cases of sensitization also observed in humans

Mutagenicity

Positive as well as negative results in in-vitro mutagenicity/genotoxicity tests.
No experimental indication of genotoxicity in vivo available.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

12. ECOLOGICAL INFORMATION

Aquatic Ecotoxicity

| | | | | |
|------|---------------------------|-----------|-------------------|------------|
| LC50 | Oryzias latipes, | OECD 203, | semi-static 96 h | > 100 mg/l |
| LC50 | Oryzias latipes, | OECD 204, | semi-static 96 h | > 100 mg/l |
| EC50 | Daphnia magna, | OECD 202, | Flow through 21 d | 24.1 mg/l |
| EC50 | Selenastrum capricornutum | OECD 210 | 7a h | 380 mg/l |

Bacteria Toxicity

| | | |
|------------------|-------------------------|----------|
| EC50 >3,000 mg/l | Psuedomonas fluorescens | 16 hours |
|------------------|-------------------------|----------|

Biodegradability

No data

Mobility in soil

Do not allow to enter soil, waterways or wastewater.

13. DISPOSAL CONSIDERATIONS

Waste Disposal

When a decision is made to discard this material as supplied, it does not meet RCRA's characteristics definition of ignitability, corrosiveness, or reactivity and is not listed in 40CFR261.33. The toxicity characteristic (TC), has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).

14. TRANSPORTATION INFORMATION

DOT (US)

Non-Regulated

IMDG

Non-Regulated

IATA

Non-Regulated

15. REGULATORY INFORMATION

TSCA INVENTORY STATUS

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

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OSHA HAZARDS

Target Organ Effect, Skin Sensitizer, Skin Irritant, Eye Irritant

| HMIS Classification | | NFPA Rating |
|---------------------|---|-------------|
| Health Hazard; | 2 | 2 |
| Flammability | 1 | 1 |
| Physical Hazards | 0 | 0 |

SARA TITLE III: Section 311/312 Hazard Class

Acute Health Hazard, Chronic Health Hazard

SARA TITLE III: Section 313 (40CFR370)

This product does not contain a chemical which is listed in Section 313 at or above the de minimus concentrations.

CERCLA Information (40CFR302.4)

This material contains no hazardous or extremely hazardous substances as defined by CERCLA or SARA Title III, and release is therefore not reportable.

This material contains an inhibitor (HQ, MEHQ, etc.). The type and amount meet product specifications. Contact a company representative for exact concentrations and details on inhibitor level maintenance.

California Proposition 65 Information:

This product does not contain substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

16. OTHER INFORMATION

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this SDS was obtained from sources, which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. This SDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).