

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

TRADE NAME: ArmorStar VBXC-2200
DESCRIPTION: BLENDED VINYL ESTER RESIN IN MONOMER
PRODUCT CODE IDENTITY: VBXC2200B1
NPCA HMIS RATING: H 2* F 3 R 1
LAST REVISED: 12/06/2013
PRINT DATE: 01/15/2015
COMPANY NAME: CCP COMPOSITES US LLC
ADDRESS: 820 E. 14TH AVE.
CCP COMPOSITES US LLC
PRODUCT STEWARDSHIP
N. KANSAS CITY MO 64116
CUSTOMER: INFORMATION TELEPHONE: 1-800-821-3590
ATTENTION:

24 HOUR RESPONSE NUMBER (CHEMTREC): 1-800-424-9300 (NORTH AMERICA)
001-703-527-3887 (INTERNATIONAL)

CCP certifies that its products comply with all the provisions of the Toxic Substances Control Act (TSCA), unless otherwise stated by ingredient in Section II.

The percent by weight composition data given in Sections II and X are NOT SPECIFICATIONS, but are based on 'target' formula values for each ingredient in the product. The data are presented as ranges for low hazard ingredients and single point values for ingredients of regulatory concern. Actual batch concentrations will vary within limits consistent with separately established product specifications.

SECTION II INGREDIENTS

1
CAS# 027253-31-2
COBALT NEODECANOATE, 26% COBALT
PCT BY WT: .0300
EXPOSURE LIMIT:
ACGIH TLV/TWA: .05 MG/CU.M. AS COBALT METAL, DUST & FUME
OSHA PEL/TWA: .05 MG/CU.M. AS COBALT METAL, DUST & FUME

2
CAS# 000136-52-7
COBALT 2-ETHYLHEXANOATE, 12% COBALT
PCT BY WT: .1190
EXPOSURE LIMIT:
ACGIH TLV/TWA: .05 MG/CU.M. AS COBALT METAL, DUST & FUME
OSHA PEL/TWA: .05 MG/CU.M. AS COBALT METAL, DUST & FUME

3
CAS# 000100-42-5
STYRENE MONOMER
PCT BY WT: 31.4480 VAPOR PRESSURE: 4.500 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 20 PPM (85 MG/CU.M.)
ACGIH TLV/STEL: 40 PPM (170 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (8 HR TWA)
OSHA PEL/CEILING: ACCEPTABLE MAX. PEAK: 600 PPM (5 MIN IN ANY 3 HRS)
OSHA PEL/STEL: ACCEPTABLE CONCENTRATION: 200 PPM (15 MIN TWA)
LD50, Oral: 4.37 G/KG (RAT)
LD50, Dermal: >5 G/KG (RABBIT)
OTHER:
OTHER (cont.): LCLo: 5000 PPM/8H (RAT)
NIOOSH TWA: 50 PPM (215 MG/M3)
OTHER LIMITS:

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 IARC - Group 2B See Section V NTP - Reasonably Anticipated
 to be a Human Carcinogen

 4
 UNSATURATED POLYESTER RESIN
 ON TSCA AND DSL INVENTORIES CAS# PROPRIETARY
 PCT BY WT: 50 - 60

 This product contains one or more reported carcinogens or suspected
 carcinogens which are noted by NTP, IARC, or OSHA-Z in the appropriate
 subsection above under OTHER LIMITS.

 This substance is classified as a hazardous air pollutant.

SECTION III PHYSICAL DATA

 Boiling Range: High: -N/A F Low: 293.0 F
 Vapor Pressure: See Section II
 Theoretical Weight per Gallon, Calculated: 9.2179 LB/GL
 Theoretical Specific Gravity, Calculated: 1.107
 Theoretical VOC, Calculated: 3.157 LB/GL
 --If applicable, see Section X for further VOC information--
 Physical State: LIQUID
 Appearance: BLUE
 Odor: STYRENE
 Odor Threshold: -N/A
 pH: -N/A
 Freezing Point: -N/A
 Water Solubility: INSOLUBLE
 Coefficient of Water/Oil Distribution: -N/A
 Mechanical Impact Explosion: NO KNOWN HAZARD
 Static Electricity Explosion: AVOID STATIC CHARGE
 % HAP BY WEIGHT 31.499
 % MONOMER BY WEIGHT 31.948

SECTION IV FIRE AND EXPLOSION HAZARD DATA

 FLAMMABILITY CHARACTERISTICS:
 Lowest Closed Cup Flashpoint: 88.0 F
 For Flash Points <73F:
 OSHA Flammability Classification: Class IB
 DOT Flammability Classification: Flammable Liquid
 Lower Flammable Limit in Air: 1.1 % by volume
 For Flash Points >=73F and <100F:
 OSHA Flammability Classification: Class IC

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DOT Flammability Classification: Flammable Liquid
DOT SHIPPING NAME:
UN1866, RESIN SOLUTION, 3, PGII (where flash point <73F)
UN1866, RESIN SOLUTION, 3, PGIII (where flash point is >=73 and <=140F)
EXTINGUISHING MEDIA:

Foam, carbon dioxide, dry chemical, water fog.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
If polymerization takes place in a container, there is possibility of violent rupture of the container. Vapors are uninhibited and may form polymers in vents or flame arrestors of storage tanks resulting in stoppage of vents. Vapors may cause flash fire. Keep containers tightly closed and isolate from heat, electrical equipment, sparks and flame. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

SPECIAL FIRE FIGHTING PROCEDURES:
Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat.

ADDITIONAL TRANSPORTATION INFORMATION:
Freight Classification:
NMFC: 149980/SUB 2 RESIN COMPOUNDS, LIQUID LTL CLASS 55

SECTION V HEALTH HAZARD DATA

EFFECTS OF EXCESSIVE OVEREXPOSURE. PRIMARY ROUTES OF ENTRY ARE:
EYE CONTACT:
Irritation. Symptoms are tearing, redness and discomfort.
SKIN CONTACT:
Irritation. Can cause defatting of skin which may lead to dermatitis.
INHALATION:
Irritation to nose and throat. Extended or repeated exposure to concentrations above the recommended exposure limits may cause brain or nervous system depression, with symptoms such as dizziness, headache or nausea and if continued indefinitely, loss of consciousness, liver and kidney damage.
Reports have associated repeated and prolonged occupational over-exposure to solvents with permanent brain and nervous system damage.

INGESTION:
May cause mouth, throat, esophagus and stomach irritation, nausea, vomiting and diarrhea. Aspiration into lungs can cause pneumonitis which can be fatal.

MEDICAL CONDITIONS THAT MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.
Preexisting eye, skin, liver, kidney and respiratory disorders.

EMERGENCY AND FIRST AID PROCEDURES:
In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapors or spray mist, remove to fresh air. If swallowed, get medical attention immediately.
Based on the presence of components (**,**,03)

CALIFORNIA PROPOSITION 65 INFORMATION:
WARNING - This product contains a chemical(s) known to the State of California to cause cancer.

OTHER HEALTH HAZARDS:

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STYRENE MONOMER

The 12th Report on Carcinogens issued by the National Toxicology Program lists styrene as a "reasonably anticipated" carcinogen, but the Report cautions that the NTP listing does not mean that styrene presents a risk to persons in their daily lives. The Styrene Information and Research Center does not agree with the classification as it did not include a review of all available data. SIRC states: "HHS included styrene in the 12th RoC despite the fact that European Union regulators have determined styrene does not represent a human cancer concern. E.U. scientists reviewed the full styrene database, weighing all of the available data in reaching their conclusion."

The International Agency for Research on Cancer (IARC) has reclassified styrene as Group 2B "possibly carcinogenic to humans". This new classification is not based on new health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Center does not agree with the reclassification and has published the following statement. "Recently published studies tracing 50,000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene."

An increased incidence of lung tumors was observed in mice from a recent inhalation study. The relevance of this finding is uncertain. Data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic.

Lung effects have been observed in the mouse following repeated exposure to styrene.

 SECTION VI REACTIVITY DATA

STABILITY: Stable

HAZARDOUS POLYMERIZATION: May occur.

CONDITIONS TO AVOID:

Elevated temperatures.

INCOMPATIBILITY (MATERIALS TO AVOID):

Oxidizers, reducing agents, peroxides, strong acids, bases, UV light, or any source of free radicals and mild steel.

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition or combustion can produce fumes containing organic acids, carbon dioxide and carbon monoxide.

 SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition (flames, hot surfaces, and electrical, static, or frictional sparks). Avoid breathing vapors. Ventilate area. Contain and remove with inert absorbent and non-sparking tools.

WASTE DISPOSAL METHOD:

Dispose of in accordance with local, state and federal regulations. Do not incinerate closed containers. Incinerate in approved facility.

 SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

Do not breathe vapors. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during use of this product until vapors are exhausted, unless air monitoring demonstrates vapor levels are below

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applicable limits. Follow respirator manufacturer's directions for respirator use. Observe OSHA Standard 29CFR 1910.134.

VENTILATION:

Provide general clean air dilution or local exhaust ventilation in volume and pattern to keep the air contaminant concentration below the lower explosion limit and below current applicable exposure limits. Refer to OSHA Standard 1910.94.

NOTE: Heavy solvent vapors should be removed from lower levels of the work area and all ignition sources (nonexplosion-proof motors, etc.) should be eliminated.

PROTECTIVE GLOVES:

Use solvent impermeable gloves to avoid contact with product.

EYE PROTECTION:

Do not get in eyes. Use safety eyewear with splash guards or side shields, chemical goggles, face shields.

OTHER PROTECTIVE EQUIPMENT:

Avoid contact with skin. Use protective clothing. Prevent contact with contaminated clothing. Wash contaminated clothing, including shoes, before reuse.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Do not store above 100 deg. F. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep away from heat, sparks and flame. Keep containers closed when not in use and upright to prevent leakage.

OTHER PRECAUTIONS:

Containers should be grounded when pouring. Do not take internally. Wash hands after using and before smoking or eating. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks and flames. Do not cut, puncture or weld on or near emptied containers. Follow all hazard precautions given in this data sheet until container is thoroughly cleaned or destroyed.

KEEP OUT OF REACH OF CHILDREN

FOR INDUSTRIAL USE ONLY

SECTION X Sara Title III Information

SARA 313 INFORMATION:

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

COBALT NEODECANOATE, 26% COBALT
CAS# 027253-31-2 PCT BY WT: .0300

COBALT 2-ETHYLHEXANOATE, 12% COBALT
CAS# 000136-52-7 PCT BY WT: .1190

STYRENE MONOMER

CAS# 000100-42-5 PCT BY WT: 31.4480

CCP COMPOSITES US LLC

LIMITED WARRANTY AND LIMITATION OF LIABILITY

LIMITED WARRANTY. Seller warrants that: (i) Buyer shall obtain good title to the product sold hereunder, (ii) at shipment such product shall conform to Seller's specifications for the product; and (iii) the sale or use of such product will not infringe the claims of any U.S. patent covering the product itself, but Seller does not warrant against infringement which

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might arise by the use of said product in any combination with other products or arising in the operation of any process.

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(b) If Seller furnishes technical or other advice to Buyer, whether or not at Buyer's request, with respect to processing, further manufacture, other use or resale of the products, Seller shall not be liable for, and Buyer assumes all risk of, such advice and the results thereof. (Rev. 01/12)