

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: QUANTUM45 CHROMATED EPOXY PRIMER YELLOW BASE Product Code: 45-IP-4094

MANUFACTURER:
Engineered Marine Coatings, INC

EMERGENCY PHONE: 1-800-255-3924 (CHEMTEL)

MANUFACTURING ADDRESS:
4120 Hyde Park Blvd.
Niagara Falls, NY 14305

INFORMATION PHONE: 1-855-54GENIUS

CORPORATE ADDRESS:
PO Box 921
Isle of Palms, SC 29451

Product Use: PROFESSIONAL USE ONLY
Not recommended for:

2. HAZARD(S) IDENTIFICATION

GHS Ratings:

Flammable liquid	3	Flash point $\geq 23^{\circ}\text{C}$ and $\leq 60^{\circ}\text{C}$ (140°F)
Dermal Toxicity	Acute Tox. 4	Dermal >1000 and ≤ 2000 mg/kg
Skin corrosive	1B	Destruction of dermal tissue: Exposure < 1 hour Observation < 14 days, visible necrosis in at least one animal
Eye corrosive	1	Serious eye damage: Irreversible damage 21 days after exposure, Draize score: Corneal opacity ≥ 3 , Iritis > 1.5
Skin sensitizer	1	Skin sensitizer
Carcinogen	1B	Presumed Human Carcinogen, Based on demonstrated animal carcinogenicity

GHS Hazards

H226	Flammable liquid and vapour
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H350	May cause cancer

GHS Precautions

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
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P241	Use explosion-proof electrical/ventilating/light/.../equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P264	Wash hands thoroughly after handling
P272	Contaminated work clothing should not be allowed out of the workplace
P280	Wear protective gloves/protective clothing/eye protection/face protection

P281	Use personal protective equipment as required
P310	Immediately call a POISON CENTER or doctor/physician
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P321	Specific treatment (see ... on this label)
P322	Specific measures (see ... on this label)
P363	Wash contaminated clothing before reuse
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313	IF exposed or concerned: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P370+P378	In case of fire: Use ... for extinction.
P405	Store locked up
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to ...

Signal Word: Danger



3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS number	Weight Concentration %
Dimethyl Carbonate	616-38-6	20.00% - 30.00%
Epoxy Resin	25068-38-6	10.00% - 20.00%
Strontium Chromate	7789-06-2	5.00% - 10.00%
Silica, Crystalline	14808-60-7	5.00% - 10.00%
Aromatic Hydrocarbons	254504001	1.00% - 5.00%
Xylene	1330-20-7	1.00% - 5.00%
Ethylene glycol monobutyl ether	111-76-2	1.00% - 5.00%
Trimethylolpropane triacrylate	15625-89-5	1.00% - 5.00%
Ethylbenzene	100-41-4	0.10% - 1.00%

(1) Skin

4. FIRST AID MEASURES

INHALATION:

Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type systems may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. Consult a physician.

EYES:

Flush with clean, lukewarm water (low pressure) for at least 15 minutes, while lifting eyelids. Refer individual to

physician or ophthalmologist for immediate follow-up.

SKIN:

First aid for skin: Remove contaminated clothing immediately. Wash affected areas thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. Seek medical attention if irritation develops or persists.

INGESTION:

DO NOT INDUCE VOMITING. Give 1 to 2 cups of mil or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON. Consult physician immediately.

5. FIRE-FIGHTING MEASURES

Flash Point: 40 C (104 F)

LEL: 1.00

UEL: 13.00

EXTINGUISHING MEDIA: Use water spray to cool fire exposed surfaces and to protect personnel. Isolate "fuel" supply from fire. Use foam, dry chemical, carbon dioxide, or water spray as last option. Avoid spraying water directly into storage containers due to the danger of boilover.

HAZARDOUS COMBUSTION PRODUCTS: Fires involving this product may release fumes, smoke, carbon dioxide, carbon monoxide, and irritating vapors.

FIRE FIGHTING INSTRUCTIONS: Wear self-contained breathing apparatus and protective clothing. Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting fire. Vapors may cause a flash fire or ignite explosively. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL:

Eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.

LARGE SPILL:

Evacuate all non-essential personnel. Remove all sources of ignition. Ventilate the area. Equip employees with appropriate protection equipment. Dike around spilled material. Cover spill with inert absorbent material and shovel with non-sparking tools into container. Remove containers to a safe area and seal. Waste material must be disposed of in accordance with federal, state, and local environmental regulatory controls.

7. HANDLING AND STORAGE

HANDLING: Ground lines and equipment during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Do not cut, grind, drill, weld, or reuse containers unless adequate precautions are taken against these hazards. Do not eat, drink, or smoke in areas of use or storage.

STORAGE: Protect against physical damage. Store in a cool dry place. Outside or detached storage preferred. Inside storage should be in a standard flammable liquid storage room or cabinet. All equipment should be grounded and bonded to reduce static electricity hazard. Use non-sparking tools. Do not reuse empty product container for any purpose.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Dimethyl Carbonate 616-38-6	OSHA PEL Not Available	ACGIH TLV Not Available	Not Established
Epoxy Resin 25068-38-6	TWA 5 ppm (19 mg/m ³) USA. Occupational Exposure Limits(OSHA) - Table Z-1 Limits for Air Contaminants	TWA 0.5 ppm USA. ACGIH Threshold Limit Values (TLV)	Not Established
Strontium Chromate 7789-06-2	PEL 1989 (United States, 3/1989). CEIL: 0.1 mg/m ³ , (as Cr(VI)) PEL Z2 (United States, 2/2013). CEIL: 1 mg/10m ³ PEL (United States, 2/2013). TWA: 0.005 mg/m ³ , (as Cr(VI)) 8 hours.	TLV (United States, 6/2013). TWA: 0.0005 mg/m ³ , (measured as Cr(VI)) 8 hours.	Not Established
Silica, Crystalline 14808-60-7	PEL: 0.1 mg/M3 Exposure to airborne crystalline silica shall not exceed an 8-hour TWA limit as stated in 29 CFR 1910.1000 Table Z-3 for Mineral Dusts, specifically: "Silica: Crystalline: Quartz (respirable)."	TWA 0.025 mg/m ³ USA. ACGIH Threshold Limit Values (TLV)	NTP/IARC Level 2A Grouping listed carcinogen as airborne dust.
Aromatic Hydrocarbons 254504001	OSHA PEL Not Available	ACGIH TLV Not Available	Not Established
Xylene 1330-20-7	PEL 100 ppm - TWA STEL 150 ppm (655 mg/m ³) TWA 100 ppm (435 mg/m ³) USA. OSHA - TABLE Z-1 Limits for Air Contaminants -1910.1000	100 ppm - TWA 150 ppm - STEL	Not Established
Ethylene glycol monobutyl ether 111-76-2	The Federal OSHA standard 50 ppm (240 mg/m ³) TWA averaged over an 8-hour workshift.	The ACGIH limit is 25 ppm (121 mg/m ³)TWA averaged over an 8-hour workshift.	Not Established
Trimethylolpropane triacrylate 15625-89-5	TWA = 1mg/m ³ , USA Workplace Environmental Exposure Levels	TLVs 0.1 mg/m ³	NOISHA RELs 0.05 mg/m ³
Ethylbenzene 100-41-4	100 ppm TWA 125 ppm STE	100 ppm TWA 125 ppm STEL	The NIOSH IDLH level is 800 ppm of 0.02 mg/m ³ on either a momentary or a daily average basis.

Good general ventilation (typically 10 air changes per hour) should be used to keep vapor levels below the limits in Section 2 and lower explosive limit in Section 5. Ventilation rates should be matched to conditions. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Provide readily accessible eye wash stations and safety showers. Wash at the end of each workshift and before eating, smoking, or using the toilet. Promptly remove clothing that becomes contaminated.

9. PHYSICAL AND CHEMICAL PROPERTIES

This mixture typically exhibits the following properties under normal circumstances:

Appearance: Liquid Vapor Pressure: 73.8 mm Hg Vapor Density: 3.7 Specific Gravity: 1.47 Freezing point: No Data Boiling range: No Data Evaporation rate: No Data Explosive Limits: 1% - 13% Autoignition temperature: No Data Coating VOC (lbs/gal) 1.79	Odor: Solvent Odor threshold: No Data pH: No Data Melting point: No Data Solubility: No Data Flash point: 104°F,40°C Flammability: Flammable Liquid, Class 2 Partition coefficient (n-octanol/water): No Data Decomposition temperature: No Data
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10. REACTIVITY AND STABILITY

STABLE

Incompatibility:

Strong oxidizing agents
Strong Acids

Hazardous Decomposition:

May form: carbon dioxide and carbon monoxide
Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Mixture Toxicity

Dermal Toxicity LD50: 1,886mg/kg

Component Toxicity

616-38-6 Dimethyl Carbonate
Dermal LD50: 5,000 mg/kg (RABBIT)

1330-20-7 Xylene
Oral LD50: 4,300 mg/kg (RAT) Dermal LD50: 1,700 mg/kg (RABBIT) Inhalation LC50: 5,000 ppm (RAT)

111-76-2 Ethylene glycol monobutyl ether
Oral LD50: 470 mg/kg (RAT) Dermal LD50: 220 mg/kg (RAT) Inhalation LC50: 450 ppm (RAT)

15625-89-5 Trimethylolpropane triacrylate
Oral LD50: 5,000 mg/kg (RAT) Dermal LD50: 55 mg/kg (RABBIT)

ROUTES OF ENTRY:

Inhalation Skin Contact Eye Contact Ingestion

Exposure to this material may affect the following organs:

Blood Eyes Kidneys Liver Lungs Central Nervous System Skin

Effects of Overexposure

Short Term Exposure

Ethyl benzene irritates the eyes, skin, and respiratory tract. Exposure to high concentrations can cause dizziness, lightheadedness and unconsciousness. Very high exposures (above the OEL) can cause difficult breathing, narcosis, coma, and even death. Swallowing the liquid may cause aspiration into the lungs, resulting in chemical pneumonitis. May affect the central nervous system. Concentration of 200 ppm can cause irritation. This chemical irritates the eyes, skin, and respiratory tract. High exposure caused dizziness, lightheadedness, and unconsciousness. breath. Higher exposures can cause pulmonary edema, a medical emergency that can be delayed for several hours. This can cause death. Exposure could cause central nervous system depression and liver and kidney damage Irritates the eyes. Inhalation can cause cough, dyspnea (breathing difficulty), wheezing.

Long Term Exposure

Repeated or prolonged exposure to the skin may cause drying, scaling and blistering. May cause kidney disease, liver disease, chronic respiratory disease, skin disease, as follows: EB is not nephrotoxic. Concern is expressed because the kidney is the primary route of excretion of EB and its metabolites. EB is not hepatotoxic. Since EB is metabolized by the liver, concern is expressed for these tissues. Exacerbation of pulmonary pathology might occur following exposure to EB. Individuals with impaired pulmonary function might be at risk. EB is a defatting agent and may cause dermatitis following prolonged exposure. Individuals with preexisting skin problems may be more sensitive to EB. There is limited evidence that EB may damage the developing fetus, and may cause mutations. The liquid defats the skin. This chemical can break down red blood cells, and cause anemia; effects the haematopoietic system, resulting in blood disorders. It can also damage the liver and kidneys. Can cause decreased pulmonary function, progressive respiratory symptoms; fibrosis (silicosis). A potential occupational carcinogen. Silicosis is a very serious lung disease and can cause with cough and shortness of breath. Silicosis can develop in a few weeks at very high exposures, or it may occur over many years with lower exposures. Silicosis can cause death. If silicosis develops, risk of developing tuberculosis is increased. The disease may progress with or without continued exposure. If it does, this can be crippling or even fatal. Very fine silica, or "silica flour" is even more hazardous.

The following ingredients are listed as possible carcinogens:

CAS Number

100-41-4

Description

Ethylbenzene

% Weight

.1 to 1.0%

Carcinogen Rating

Ethylbenzene: California Proposition 65

The IARC has classified ethylbenzene as a possible carcinogen.

Strontium Chromate: OSHA: + IARC: 1

NTP: Known to be a human carcinogen.

ACGIH: 2

EPA: -

NIOSH: +

Silica, Crystalline: NTP: YES

IARC: YES (Level 2A Grouping)

7789-06-2

Strontium Chromate

5 to 10%

14808-60-7

Silica, Crystalline

5 to 10%

12. ECOLOGICAL INFORMATION

This section will be updated as ecological reviews are complete.

Component Ecotoxicity

Epoxy Resin

Toxicity
no data available
Persistence and degradability
Biodegradability Result: - According to the results of tests of biodegradability this product is not readily biodegradable.
Remarks: no data available
Bioaccumulative potential
no data available
Mobility in soil
no data available
Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects .
no data available

Ethylene glycol monobutyl ether

Toxicity to fish LC50 - other fish - 220 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 1,815 mg/l - 24 h
Persistence and degradability
no data available
Ratio BOD/ThBOD 88 %
Bioaccumulative potential
no data available
Mobility in soil
no data available
Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

Waste material must be disposed of in accordance with all federal, state, and local environmental regulatory controls. Chemical additions, processing, or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate, or otherwise inappropriate.

14. TRANSPORT

<u>Agency</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>Hazard Class</u>
DOT	PAINT	1263	III	3

15. REGULATORY INFORMATION

The regulatory information provided is not meant to be comprehensive. Other federal, state, and local regulation applies to this material.

<u>Country</u>	<u>Regulation</u>	<u>All Components Listed</u>
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EU Risk Phrases

Safety Phrase

- None

16. OTHER INFORMATION

Hazardous Material Information System (HMIS)

HEALTH	<input type="text" value="2"/>
FLAMMABILITY	<input type="text" value="3"/>
PHYSICAL HAZARD	<input type="text" value="1"/>
PERSONAL PROTECTION	<input type="text" value="E"/>

HMIS & NFPA Hazard Rating Legend
* = Chronic Health Hazard
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH

The information set forth above is based on information which Engineered Marine Coatings, Inc. believes to be accurate. No warranty, expressed or implied, is intended. The information is provided solely for your information and consideration and EMC assumes no legal responsibility for its use or reliance thereon.

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Reviewer Revision

ENGINEERED MARINE COATINGS