3185 MFUA-10 Catalyst

1. PRODUCT AND COMPANY INFORMATION

Trade name	MFUA-10 Catalyst (Part B)
Product codes	ZB3185, B3185, 3185, MFUA-10 Catalyst
Chemical family	Reactive resin mixture
Intended use	Catalyst / curing agent / hardener for MFUA-10 traffic marking paint system
Company	Colorado Paint Company II, LLC 2851 N. Walden Street Aurora, CO 80011; U. S. A.
Telephone	+1 303-388-9265
Web site	www.swarco.com/cpc
Emergency (Chemtrec; 24 h)	1-800-424-9300 (U. S. A. and Canada)

2. HAZARD IDENTIFICATION

Emergency Overview

OSHA Hazards

Corrosive, Target Organ Effect, Reproductive hazard.

Target Organs

Liver, Kidney

GHS Classification

Acute toxicity, Oral (Category 4)
Skin corrosion (Category 1B)
Respiratory sensitization (Category 1)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

Other effects

Readily absorbs through skin. Causes burns. Very toxic to aquatic organisms.

GHS Label elements, including precautionary statements

Pictograms:

Signal word: Danger

Hazard statements

H302 + H312 Harmful if swallowed or in contact with skin.
H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H361 Suspected of damaging fertility or the unborn child.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P501 Dispose of contents/container to an approved waste disposal plant.

HMIS and NFPA Classification:

	HMIS	NFPA Hazard
Health	3	3
Chronic health	*	—
Flammability	1	1
Reactivity	—	0
Physical hazard	0	—

Potential Health Effects

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin: May be harmful if absorbed through skin. Causes skin burns.
Eyes: Causes eye burns.
Ingestion: May be harmful if swallowed. Aspiration hazard if swallowed – can enter lungs and cause damage.

3. COMPOSITION

Name	Synonym	CAS	EINECS	Index	Concentration
Diethylenetriamine	DETA	111-40-0	203-865-4	612-058-00-X	20-30%
Nonylphenol	4-Nonylphenol, branched	84852-15-3	284-325-5	601-053-00-8	40-60%
Polyamine resin	Polymeric material	Proprietary	n/a	n/a	15-30%
Hydrocarbon resin	Polymeric material	Proprietary	n/a	n/a	1-10%

4. FIRST AID MEASURES

General advice

Consult a physician. Show this Material Safety Data Sheet to the attending doctor.

If inhaled

Move person to fresh air. If not breathing, give artificial respiration. Obtain proper medical attention.

If on skin

Wash off with soap and water. Consult a physician if needed.

In case of an eye contact

Rinse thoroughly with plenty of water for at least 15 minutes. Seek medical attention.

If swallowed

Do not induce vomiting. Rinse mouth with water. Seek immediate medical attention. May give one glass (250 ml) of milk.

Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide.
For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire fighters

Wear self-contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions: Carbon oxides, calcium oxide.

Further information

Use water spray to cool unopened containers. Do not permit to contaminate aquatic environment. Do not permit for simultaneous exposure to sunlight and temperatures above 60 ºC.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate unnecessary personnel to safe areas. Beware of vapors accumulating to form explosive concentrations.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided – contains ingredients that are very toxic to aquatic environment.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with electrically protected equipment and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Keep away from sources of ignition – NO SMOKING. Take measures to prevent the build up of electrostatic charge.
Beware of vapours accumulating in low areas to form explosive concentrations.

Conditions for safe storage

Keep container tightly closed in a dry, cool, and well-ventilated place. Recommended storage temperature is 10-25 °C. Do not store in containers containing copper. Do not expose to light.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational exposure limits

Name	CAS	Occupational exposure limits (mg/m^3)				
		OSHA TLV[(1)]	ACGIH TLV[(2)]	NIOSH PEL[(3)]	OSHA STEL[(4)]	EU[(5)]
Diethylenetriamine	111-40-0	4	4	4	n/a	4.3
	Eye and Upper Respiratory Tract irritation. Danger of cutaneous absorption. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Where no specific short-term exposure limit is listed and established, a figure three times the long-term exposure should be used					

No occupational exposure limits have been established for any other ingredients, which does not imply that they are not harmful or toxic. Unknown hazards may exist and/or the materials may have not been fully tested. The user is required to follow all of the good industrial hygiene practices.

(1) Occupational Safety and Health Administration (OSHA); Threshold Limit Value (8-hour time-weighted average) pursuant to (a) for general industry: 29 CFR 1910.1000 Table Z-1, (b) for construction industry: 29 CFR 1926.55 Appendix A, and (c) for maritime industry: 29 CFR 1915.1000 Table Z. (2) American Conference of Governmental Industrial Hygienists; Threshold Limit Value. (3) National Institute for Occupational Safety and Health; Recommended Exposure Limit. (4) OSHA Short Term Exposure Limit (STEL). (5) European Union exposure limit per UK EH40 Occupational Exposure Limit.

Ventilation

Use only where appropriate ventilation is available. This product is designed for outdoor use.

Personal protective equipment

Respiratory protection

A full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges are strongly recommended as a backup to engineering controls.
When sanding or abrading dried film, type N95 (US) or type P1 (EN 143) dust masks are suggested.

Hand protection

Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good work hygiene practices. The selected protective gloves have to satisfy the specifications of the standard EN 374.

Eye protection

Safety glasses with side shields are required. Tightly fitting splash goggles are strongly recommended. Face shield are recommended. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Wear impervious, flame retardant antistatic protective clothing.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash your hands thoroughly. Never intentionally inhale the contents. Use only for the intended purpose.

9. PHYSICAL PROPERTIES

Physical state	Liquid
Color	Light amber
Odor	Mild amine
Boiling point	No data available

Freezing point	No data available
Flash point	>93 ºC (Seta Closed Cup)
Explosion limits	No data available
Solubility in water	No data available
Vapor pressure	No data available
Density	0.90-1.20 $g \cdot cm^{-3}$
Viscosity	3,000-6,000 mPa·s at 25 ºC
pH	No data available

10. STABILITY AND REACTIVITY DATA

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

Heat, flames, and sparks. Simultaneous exposure to light and temperature above 60 ºC.

Materials to avoid

Bases, Strong acids, Oxidizing agents, Peroxides, Copper, Aldehydes, Ketones, Nitrites.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: Carbon oxides, nitrogen oxides.
Other decomposition products: No data available

11. TOXICOLOGICAL DATA

Data for the product as delivered is not available. Information for individual ingredients is provided below.

Acute toxicity

Name	Oral LD_{50} (mg/kg) rat	Dermal LD_{50} (mg/kg)
Diethylenetriamine	1,080 (Remarks: Behavioral: Convulsions or effect on seizure threshold.)	1,000 (rabbit) 672 (rat)
Hydrocarbon resin	>2,000	No data available.
Nonylphenol	1,300 (Remarks: Liver: other changes. Blood: Hemorrhage. Nutritional and Gross Metabolic: Weight loss or decreased weight gain.	No data available.
Polyamine resin	No data available.	No data available.

Prolonged Exposure

Name	Skin corrosion / irritation	Serious eye damage / irritation	Respiratory sensitization
Diethylenetriamine	Open irritation test (rabbit)	No data available.	May cause sensitization by inhalation.
Nonylphenol	Severe skin irritation: 24 h (rabbit)	Severe eye irritation (rabbit)	No data available.
Other ingredients	No data available.	No data available.	No data available.

Skin sensitization:

Diethylenetriamine	Allergic skin reactions in humans. Individuals having an allergic skin reaction to this product may have an allergic skin reaction to similar material(s), such as Ethylenediamine (EDA), Triethylenetetramine (TETA), Piperazine, Tetraethylenepentamine (TEPA), Aminoethylethanolamine, Aminoethylpiperazine (AEP). Has caused allergic skin reactions when tested in mice.
All other ingredients	No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the Occupational Safety and Health Administration (OSHA) as a carcinogen.

Reproductive toxicity

Nonylphenol	Suspected human reproductive toxicant. Reproductive toxicity: Rat (oral). Effects on Newborn: Growth statistics (e.g., reduced weight gain); Physical.

Diethylenetriamine	**Birth Defects/Developmental Effects:** In an oral gavage screening study, DETA has been toxic to the fetus in laboratory animal tests. **Reproductive Effects:** In an oral gavage screening study, DETA has been toxic to the fetus in laboratory animal tests.
Other ingredients	No data available.

Teratogenicity
No data available.

Specific target organ toxicity - single exposure (Globally Harmonized System)
No data available.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
No data available.

Aspiration hazard
No data available

Potential health effects
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation. Vapours may cause drowsiness and dizziness.
Ingestion: May be harmful if swallowed.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes severe eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties of this product (a mixture) have not been thoroughly investigated.
The following symptoms of overexposure to the components of this product were reported: Cough, Shortness of breath, Headache, Nausea, Vomiting.

Synergistic effects
No data available.

12. ECOLOGICAL DATA

Toxicity

Name	Fish LC_{50} (mg/l/96 h)	Daphnia magna (water flea) and other marine invertebrates EC_{50} (mg/l/48 h)	Algae EC_{50} (mg/l/24 h)	Bacteria EC_{50} (mg/l)
Diethylenetriamine	175 Fathead minnow (Pimephales promelas) 1,014 Guppy (Poecilia reticulata)	11.5 mg/l (LC_{50}) 16 mg/l (EC_{50})	346 Green alga (Pseudokirchneriella subcapitata)	>5,000
Nonylphenol	0.135 Bluegill (Lepomis macrochirus) 0.083 Fathead minnow (Pimephales promelas) – Mortality NOEC 0.211 (Lepomis macrochirus) – Mortality LOEC	LC_{50}: 0.14 mg/l/24 h Daphnia pulex (Water flea) EC50: 0.18 mg/l/48 h Daphnia magna (Water flea)	Growth inhibition NOEC: 0.243 mg/l/4 months (Algae)	No data available.
Other ingredients	No data available.	No data available.	No data available.	No data available.

Persistence and degradability

Diethylenetriamine	Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, is ultimately biodegradable
All other ingredients	No data available.

Bioaccumulative potential

Diethylenetriamine	Less than 100
Nonylphenol	Gasterosteus aculeatus - 16 d -4.9 µg/l; Bioconcentration factor (BCF): 1,300
All other ingredients	No data available.

Mobility in soil

Diethylenetriamine	50-150
All other ingredients	No data available.

PBT and vPvB assessment

No data available.

Biological oxygen demand

	Biological	Chemical
Diethylenetriamine	BOD 5: 23%; BOD 20: 70%	Chemical Oxygen Demand: 1.84 mg/mg
	Theoretical oxygen demand: 3.42 mg/mg	Theoretical Oxygen Demand: 3.34 mg/mg
All other ingredients	No data available.	No data available.

Other adverse effects

Data for the entire preparation (a mixture) is not available.
This product contains ingredients that are very toxic to aquatic organisms and cause long-term adverse effects.

13. DISPOSAL CONSIDERATIONS

Unused or spoiled product

The user must determine if it meets applicable definitions of a hazardous waste per 40 CFR 261 and other regulations. Dispose according to the environmental laws. Contact a licensed professional waste disposal service to arrange for appropriate removal. Burn the material in a chemical incinerator equipped with an afterburner and scrubber. Do not incinerate closed containers.

Container

Empty packaging may contain product residue and should not be reused. Dispose as of unused product.

14. TRANSPORTATION INFORMATION

Information provided for guidance purpose only, not meant to be inclusive. Packaging must be reviewed for suitability and compliance with the applicable regulations prior to shipment.

DOT (U. S. A.); IATA

UN3267, Class 8, Packing Group III, ERG 153

Proper shipping name

Corrosive liquid, basic, organic, n.o.s.

Technical shipping name

Nonylphenol, diethylenetriamine

Sea Transport; IMDG

UN3267, Class 8, Packing Group III, EmS-NO F-A, S-B

Proper shipping name

Corrosive liquid, basic, organic, n.o.s.

Technical shipping name

Nonylphenol, diethylenetriamine

Marine Pollutant

Marine pollutant

15. REGULATORY INFORMATION

TSCA and DSL

Listed or exempt.

OSHA Hazards

Flammable Liquid, Target Organ Effect, Irritant, Reproductive hazard.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard.

SARA 302 and 304

To the best of our knowledge, no chemicals in this product are subject to the reporting requirements of SARA Title III, Section 302 (40 CFR 355.30) or Section 304 (40 CFR 355.30).

SARA 313

No chemicals in this product are subject to reporting levels established by SARA Title III, Section 313 (40 CFR 372.65):

California Proposition 65

To the best of our knowledge, this product contains no chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

16. ADDITIONAL INFORMATION

This safety data sheet complies with 29 CFR 1910.1200 and with EC 1907/2006, as amended.
Unlimited paper copies of this publication may be made by the users for internal purposes only.
Last modified: Thursday, 19 October 2023 14:37 (Minor misspellings were corrected.)

Disclaimer

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