3186 MFUA-10 Yellow

1. PRODUCT AND COMPANY INFORMATION

Trade name	3186 MFUA-10 Traffic Paint Yellow (Part A)
Product codes	ZB3186, B3186, 3186, MFUA-10 Yellow
Chemical family	Pigmented resin
Intended use	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

Target Organ Effect, Reproductive hazard.

Target Organs

Liver, Kidney

GHS Classification

Carcinogenicity (Category 1B)
Germ cell mutagenicity (Category 2)
Acute toxicity, Inhalation (Category 4)
Specific target organ toxicity - single exposure (Category 3)
Skin irritation (Category 2)
Skin sensitization (Category 1)
Respiratory sensitization (Category 1)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

Other effects

Causes skin irritation. 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.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P201 Obtain special instructions before use.
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention
P391 Collect spillage.
P501 Dispose of contents/container in an approved waste disposal plant.

HMIS and NFPA Classification:

	HMIS	NFPA Hazard
Health	2	2
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
Diglycidyl ether of Bisphenol A	DGEBPA	025085-99-8	500-033-5	603-074-00-8	40-60%
Polyurethane acrylate resin mixture		Proprietary	n/a	n/a	10-30%
Titanium dioxide	Titanium(IV) oxide	13463-67-7	236-675-5	n/a	10-30%
C12 and C14 alkyl glycidyl ethers	Alkoxy derivatives of oxirane	68609-97-2	271-846-8	603-103-00-4	5-10%
Pigment yellow 65	2-[(4-Methoxy-2-nitrophenyl)azo]-*N*-(2-methoxyphenyl)-3-oxo-butyramide	6528-34-3	229-419-9	n/a	5-15%
Nonylphenol	4-Nonylphenol, branched	84852-15-3	284-325-5	601-053-00-8	0.1-0.5%
Phenyl glycidyl ether	1,2-Epoxy-3-phenoxypropane	122-60-1	204-557-2	603-067-00-X	0.1-0.5%

4. FIRST AID MEASURES

General advice

Consult a physician. Show this Material Safety Data Sheet to the attending doctor.
This material or its emissions may induce an allergic or sensitization reaction and thereby aggravate systemic disease.

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

Seek immediate medical attention! May be fatal if swallowed. Rinse mouth with water.

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. Heat and impurities may increase temperature, build pressure, and cause breaking of the containers. Water may be ineffective. 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. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire fighters

Do not enter fire area without proper protection.

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.

Environmental precautions

Prevent 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, clean affected area using a strong detergent solution (minimise the use of water). Collect and place in suitable closed container for disposal according to local regulations. Avoid exposure to heat and sunlight.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Avoid contact with skin.

Conditions for safe storage

Keep container tightly closed in a dark, dry, and well-ventilated place. Recommended storage temperature is 15-50 °C. 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)]
Phenyl glycidyl ether	122-60-1	60	0.6	6	n/a	n/a
	Sensitizer. Irritant. Harmful. Skin contact does contribute to exposure. Confirmed animal carcinogen with unknown relevance to humans.					
Titanium dioxide	13463-67-7	15	10	Fine particles: 2.4 Ultrafine particles: 0.3	n/a	4
	The established limits are for respirable dust (total dust maximum is 15 mg/m^3) only and are meaningless for the paint product as delivered, but applies while sanding or abrading dried coating. Lower Respiratory Tract irritation. Slight lung fibrosis (carcinogenic in rats). Health Effect: Nuisance particulate, accumulation in lungs. Not classifiable as a human carcinogen. No increase in risk for lung cancer (or any other specific cause of death) among titanium dioxide manufacturing workers.					

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 by trained professional personnel only.

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 that satisfy the specifications of the standard EN 374. Dispose of contaminated gloves after use in accordance with applicable laws and good work hygiene practices.

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	Yellow
Odor	Mild amine
Boiling point	No data available
Freezing point	No data available
Flash point	>93 ºC (PMCC)
Upper explosion limit	No data available
Lower explosion limit	No data available
Solubility in water	Contains soluble ingredients. No data available for the entire product (a mixture).
Vapor pressure	No data available
Density	1.1-1.5 $g \cdot cm^{-3}$
Viscosity	4,000-6,000 mPa·s at 25 ºC
pH	No data available

10. STABILITY AND REACTIVITY DATA

Chemical stability

Stable under recommended storage conditions. Might become unstable upon depletion of the inhibitor and exposure to light. This product contains MEHQ as inhibitor.

Possibility of hazardous reactions

Hazardous polymerisation might occur upon simultaneous depletion of inhibitor and exposure to light and high temperature.

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.

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	NIOSH IDLH (mg/m^3)	Oral LD_{50} (mg/kg) rat	Inhalation LC_{50} (mg/m^3/4 h) rat	Dermal LD_{50} (mg/kg) rabbit
C12 and C14 alkyl glycidyl ethers	n/a	17,100	No data available.	No data available.

Name	NIOSH IDLH (mg/m^3)	Oral LD_{50} (mg/kg) rat	Inhalation LC_{50} (mg/m^3/4 h) rat	Dermal LD_{50} (mg/kg) rabbit
DGEBPA	n/a	>5,000	No data available.	>20,000
Nonylphenol	n/a	1,300 (Liver: other changes. Blood: Hemorrhage. Nutritional and Gross Metabolic: Weight loss or decreased weight gain.)	No data available.	No data available.
Phenyl glycidyl ether	600	3,850 (Behavioral: Somnolence (general depressed activity). Behavioral: Change in motor activity (specific assay). Behavioral: Ataxia)	618 (Lungs, Thorax, or Respiration: Acute pulmonary edema.)	1,661
Pigment yellow 65	n/a	>5,000 (Not tested: Data from similar products.)	No data available.	No data available.
Titanium dioxide	5,000	>10,000	No data available.	>10,000

Prolonged Exposure

Name	Skin corrosion / irritation	Serious eye damage / irritation	Respiratory or skin sensitization
DGEBPA	Not likely to cause significant skin irritation. Repeated exposure may cause skin irritation.	May cause slight transient (temporary) eye irritation. Corneal injury is unlikely.	Skin sensitization. Has caused allergic skin reaction in humans. Did not demonstrate the potential for contact allergy in mice.
Nonylphenol	Severe skin irritation: 24 h (rabbit)	Severe eye irritation (rabbit)	No data available.
Phenyl glycidyl ether	Skin irritation: 24 h (rabbit)	Severe eye irritation: 24 h (rabbit)	May cause allergic skin reaction
Pigment yellow 65	No data available.	Not irritant.	No data available.
Titanium dioxide	Human: Mild skin irritation (3 h)	Rabbit: No eye irritation	Will not occur
Other ingredients	No data available.	No data available.	No data available.

Germ cell mutagenicity

Phenyl glycidyl ether	In vitro tests showed mutagenic effects. Genotoxicity in vitro– hamster – embryo: Morphological transformation. Genotoxicity in vitro– hamster – lungs: Sister Chromatoid exchange.
Titanium dioxide	Genotoxicity in vitro – hamster – ovary: Micronucleus test. Genotoxicity in vitro – hamster – lungs: DNA inhibition. Genotoxicity in vitro – hamster – ovary: Sister Chromatoid exchange. Genotoxicity in vivo – mouse – Intraperitoneal: Micronucleus test.
All other ingredients	No data available.

Carcinogenicity

DGEBPA	Per manufacturer: Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of Bisphenol A (DGEBPA). Although some weak evidence of carcinogenicity has been reported in animals, when all of the data are considered, the weight of evidence does not show that DGEBPA is carcinogenic. Indeed, the most recent review of the available data by the International Agency for Research on Cancer (IARC) has concluded that DGEBPA is not classified as a carcinogen.
Phenyl glycidyl ether	This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. Possible human carcinogen. IARC: 2B - Group 2B: Possibly carcinogenic to humans (Phenyl glycidyl ether). Rat – Inhalation: Carcinogenic by RTECS criteria. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Olfaction: Tumors.
Pigment yellow 65	No data available. Supplier's statement: Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Titanium dioxide	IARC: 2B - Group 2B: Possibly carcinogenic to humans (Titanium dioxide). Rat – Inhalation: Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Rat – Intramuscular: Tumorigenic: Neoplastic by RTECS criteria. Blood: Lymphomas including Hodgkin's disease. Tumors at site or application.
All other ingredients	Are or contain components that are not classifiable as to their carcinogenicity based on IARC, ACGIH, NTP, or EPA classification.

Reproductive toxicity

Nonylphenol	Suspected human reproductive toxicant. Reproductive toxicity: Rat (oral). Effects on Newborn: Growth statistics (e.g., reduced weight gain); Physical.
DGEBPA	In animal studies, has been shown not to interfere with reproduction.
Phenyl glycidyl ether	Reproductive toxicity - rat – Inhalation. Effects on Fertility: Male fertility index (e.g., number of males impregnating females per number of males exposed to fertile non-pregnant females).
Other ingredients	No data available.

Teratogenicity

DGEBPA	Did not cause birth defects or other adverse effects on the fetus when pregnant rabbits were exposed by skin contact, the most likely route of exposure, or when pregnant rats or rabbits were exposed orally.
All other ingredients	No data available.

Specific target organ toxicity - single exposure (Globally Harmonized System)

Phenyl glycidyl ether	Inhalation may cause respiratory irritation.
All other ingredients	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.
Ingestion: 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.

Synergistic effects
No data available.

12. ECOLOGICAL DATA

Persistence and degradability

DGEBPA	Bioconcentration potential is moderate. Biodegradation after 28 days: 12%
All other ingredients	No data available.

Bioaccumulative potential

Nonylphenol	Gasterosteus aculeatus - 16 d: 4.9 µg/dm^3; Bioconcentration factor (BCF): 1,300
All other ingredients	No data available.

Mobility in soil

DGEBPA	Potential for mobility in soil is low
All other ingredients	No data available.

Toxicity

DGEBPA	**Fish**: Fathead minnow (Pimephales promelas): 3.1 mg/dm^3 - 96 h (LC_{50}) Rainbow trout (Oncorhynchus mykiss):, static renewal: 2 mg/dm^3 - 96 h (LC_{50}) **Daphnia**: Daphnia magna (water flea): 1.3 mg/dm^3 - 48 h (EC_{50}); Daphnia magna (water flea): 0.55 mg/dm^3 (Maximum acceptable toxicant concentration (MATC)). **Bacteria**: Growth inhibition threshold in bacteria: > 42.6 mg/dm^3. OECD Activated Sludge Respiration Inhibition Test: >100 mg/dm^3 (IC_{50}). **Algae:** Scenedesmus capricornutum (fresh water algae): 11 mg/dm^3 - 72 h (Growth rate inhibition ErC_{50})
Nonylphenol	**Fish**: Bluegill (Lepomis macrochirus): 0.135 mg/m^3 - 96 h (LC_{50}); Fathead minnow (Pimephales promelas): 0.083 mg/m^3 - 96 h (Mortality NOEC); Bluegill (Lepomis macrochirus): 0.211 mg/m^3 - 96 h (Mortality LOEC) **Daphnia**: Daphnia pulex (Water flea): 0.14 mg/dm^3 - 24 h (LC_{50}); Daphnia magna (Water flea): 0.18 mg/dm^3 - 48 h (EC_{50}). **Algae**: Growth inhibition NOEC: 0.243 mg/dm^3 - 4 months
Phenyl glycidyl ether	**Fish**: Carassius auratus (goldfish): 43.0 mg/dm^3 - 96.0 h (LC_{50})
Titanium dioxide	**Fish**: Other fish >1,000 mg/m^3 - 96 h (LC_{50}) **Daphnia**: Daphnia magna (water flea):1,000 mg/dm^3 - 48 h (EC_{50})
Other ingredients	No data available.

PBT and vPvB assessment

No data available.

Biological oxygen demand

DGEBPA	Theoretical oxygen demand: 2.35 (calculated). Tropospheric half-life: 1.92 h (estimated).
All other ingredients	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

This product may be a hazardous waste per 40 CFR 261 and other regulations. It is the responsibility of the user to determine whether the material meets the hazardous waste criteria and dispose according to the environmental laws. Do not dump into any drain, sewer, or on the ground. 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 is 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.); IMDG; IATA

Not regulated.

Proper shipping name

PAINT; EPOXY RESIN; n.o.s.

Other information

No ingredients are considered poison inhalation hazard or marine pollution hazard.

15. REGULATORY INFORMATION

TSCA

Listed or exempt.

DSL

Some of the ingredients are not listed on DSL or NDSL.

OSHA Hazards

Toxic by inhalation, Harmful by skin absorption, Skin sensitiser, Irritant, Carcinogen.

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

Warning! This product contains product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Name	CAS
Phenyl glycidyl ether	122-60-1
Epichlorohydrin (may be present as impurity at <1% in glycidyl ethers)	106-89-8

Volatile Organic Compounds

Below 50 g/l (calculated per 40 CFR 59.406) when mixed properly (2:1 by volume) with MFUA-10 Catalyst.

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: Monday, 28 October 2019 12:31 (Minor misspellings corrected.)

Disclaimer

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