

SAFETY DATA SHEET



DATE ISSUED :	3/12/2016
SDS REF. NO :	3860-50

3860-50 PRETREATMENT PRIMER

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3860-50 PRETREATMENT PRIMER

PRODUCT CODE: 3860-50

PRODUCT USE: Industrial Waterborne Paint

MANUFACTURER

Cardinal Industrial Finishes
1329 Potrero Ave

S. El Monte, CA,
626 444-9274

24 HR. EMERGENCY TELEPHONE NUMBER

CHEMTREC (US Transportation): (800)424-9300

CHEMTREC (International Transportation) : 1(202)483-7616

WEB: WWW.CARDINALPAINT.COM

2. HAZARDS IDENTIFICATION

PICTOGRAMS



SIGNAL WORD : WARNING

HAZARD STATEMENTS :

H319 Causes serious eye irritation.

H410 Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS :

P264 Wash thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P403 Store in a well-ventilated place.

P501 Dispose of in accordance with Local, Regional, State, Federal and International Regulations.

R40 Limited evidence of a carcinogenic effect.

S36 Wear suitable protective clothing.

S37 Wear suitable gloves.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %	CAS Number
Diethylene glycol n-butyl ether	5% - 10%	112-34-5
Ethylene glycol mono butyl ether	1% - 5%	111-76-2
Benzyl butyl phthalate	1% - 5%	85-68-7

Zinc Oxide	1% - 5%	1314-13-2	
Trizinc Bis(Orthophosphate) *2-4 H ₂ O	1% - 5%	7779-90-0	
Titanium Dioxide	1% - 5%	13463-67-7	

4. FIRST AID MEASURES

Description of first aid measures.

EYES CONTACT : EYE CONTACT: Moderate irritation, tearing or blurred vision.

SKIN CONTACT : SKIN CONTACT: Moderate irritation possible from prolonged exposure; defatting and dermatitis.

INGESTION : INGESTION: Can cause gastrointestinal irritation, headache, dizziness, nausea and weakness.

INHALATION : INHALATION: May cause nasal irritation, headache, dizziness, nausea, weakness or vomiting. Loss of consciousness.

Most important symptoms and effects, both acute and delayed.

Symptoms/injuries after inhalation: May cause drowsiness or dizziness.

Symptoms/injuries after eye contact: Cause serious eye irritation.

Symptoms/injuries after ingestion: Ingestion may cause nausea, vomiting and diarrhea.

Indication of any immediate medical attention and special treatment needed.

If medical advise is needed, have product container or label on hand.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA :

Foam, alcohol foam, CO₂, dry chemical, water fog.

FIRE FIGHTING PROCEDURE : Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering the environment.

Protection during firefighting: Firefighters should wear full protective gear. Do not enter fire area without proper protective equipment, including self-contained breathing apparatus with full face piece operated in pressure demand or other positive pressure modes.

UNUSUAL FIRE AND EXPLOSION HAZARD :

Fire hazard: Highly flammable/liquid or vapor.

Explosive hazard: May form flammable/explosive vapor-air mixture.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES :

General measures: Remove ignition sources. Use special care to avoid static electric charges. No smoking.

FOR NON-EMERGENCY PERSONNEL :

For non-Emergency procedures: Evacuate unnecessary personnel.

FOR EMERGENCY RESPONDERS :

Equip cleanup crew with proper protection. Avoid breathing fume, vapors.

ENVIRONMENTAL PRECAUTIONS :

Prevent entry to sewers and public waters.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEAN UP :

Collect damaged aerosols and use absorbent and/or inert material, then place in suitable container.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING :

Additional hazards when processed: Handle empty containers with care because residual vapors are flammable.

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when you are leaving work. Provide good ventilation in process area to prevent formation of vapor. No smoking. Use only non-sparking tools. Use outdoors or in a well ventilated area. Avoid breathing fume, vapors.

Hygiene measures: Wash Skin thoroughly after handling.

CONDITIONS FOR SAFE STORAGE, INCLUDING INCOMPATIBILITIES : Storage conditions: Store in a dry, cool and well-ventilated place away from: Heat sources. Direct sunlight.

Incompatible products: Strong bases. Strong acids.

Incompatible materials: Source of ignition. Direct sunlight. Heat Sources.

8. EXPOSURE CONTROLS\PERSONAL PROTECTION

Acrylic Acid(79-10-7)		
USA ACGIH	ACGIH (TLV) TWA	2 ppm
USA NIOSH	NIOSH (REL) TWA	2 ppm, 6 mg/m3
Acrylonitrile(107-13-1)		
USA ACGIH	ACGIH (TLV) TWA	2 ppm
USA NIOSH	NIOSH (REL) C	10 ppm
USA NIOSH	NIOSH (REL) TWA	1 ppm
Aliphatic Solvent(64742-47-8)		
USA ACGIH	ACGIH (TLV) TWA	200 mg/m3
USA NIOSH	NIOSH REL (ST)	10 mg/m3
USA NIOSH	NIOSH REL (TWA)	5 mg/m3
USA OSHA	OSHA OEL (TLV) TWA Table Z-1	500 ppm, 2,000 mg/m3
USA OSHA	OSHA OEL Table Z-1	5 mg/m3
Aluminum Hydroxide(21645-51-2)		
USA ACGIH	ACGIH (TLV) TWA	10 mg/m3 (Total dust), 3 mg/m3 (Respirable fraction)
USA OSHA	OSHA (PEL) TWA	15 mg/m3 (Tptal dust), 5 mg/m3 (Respirable fraction)
Diethylene glycol n-butyl ether(112-34-5)		
USA ACGIH	ACGIH TLV (TWA)	10 ppm
Ethylene glycol mono butyl ether(111-76-2)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA NIOSH	NIOSH REL (ppm)	5 ppm
USA OSHA	OSHA PO TWA (ppm)	25 ppm
USA OSHA	OSHA TABLE Z-1 TWA (mg/m3)	50 ppm, 240 mg/m3
Ethylene Glycol(107-21-1)		
USA ACGIH	ACGIH (C)	100 mg/m3
USA ACGIH	ACGIH (C) (Aerosol only)	100 mg/m3
USA OSHA	OSHA PO (TLV-C)	50 ppm, 125 mg/m3
Styrene(100-42-5)		
USA ACGIH	ACGIH STEL (ppm)	40 ppm
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA TWA (ppm)	100 ppm
Titanium Dioxide(13463-67-7)		
PEL (Permissible Exposure Limit)	OSHA TWA	15 mg/m3
TLV	ACGIH TWA	10 mg/m3
Zinc Oxide(1314-13-2)		
USA ACGIH	ACGIH (TLV) STEL	10 mg/m3
USA ACGIH	ACGIH (TLV) TWA	2 mg/m3
USA NIOSH	NIOSH (REL) C	15 mg/m3
USA NIOSH	NIOSH (REL) ST	10 mg/m3
USA NIOSH	NIOSH (REL) TWA	5 mg/m3
USA NIOSH	USA NIOSH (IDLH)	500 mg/m3, 8 h, TWA
USA OSHA	OSHA (TWA) Table Z-1	5 mg/m3
USA OSHA	USA OSHA (PEL)	15 mg/m3 (dust; total), 8 h, TWA
USA OSHA	USA OSHA (PEL)	5 mg/m3 (dust; respirable), 8 h, TWA
USA OSHA	USA OSHA (PEL)	5 mg/m3 (fumes), 8 h, TWA

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION : If TLV of the product or any component is exceeded, a NIOSH approved Air Supplied Respirator is advised in absence of environmental control. OSHA Regulations also permit other NIOSH Respirators under specified conditions. (See your Safety Equipment Supplier) Engineering or administrative controls should be implemented to reduce exposure.

HAND PROTECTION REMARKS : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

EYES PROTECTION : Do not get in eyes. Solvent resistant safety eyewear with splash guards or side shields is recommended.

SKIN AND BODY PROTECTION : Prevent repeated or prolonged skin contact with GB Protective Handcream, wear impervious clothing and chemical resistant boots.

WORK HYGIENIC PRACTICES: Remove and wash soiled clothing before reuse. Wash hands with soap and water after handling paint, before eating, using the rest room or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Liquid
Color	:	Various colors depending on the pigmentation.
Odor	:	Characteristic. Sweet. Mint like.
Odor threshold	:	No data available.
pH	:	N/A - See Technical Data Sheet
Evaporation rate	:	Slower Than Ether
Melting point	:	-94.7 C (-138.46 F)
Freezing point	:	No data available.
Boiling point	:	334.0 deg F TO 698.0 deg F
Flash point	:	Above 212 deg F
Lower explosion limit	:	.26
Upper explosion limit	:	24.6
Vapor pressure	:	185 mm Hg
Vapor density	:	Heavier than air
Relative density	:	No data available.
Density	:	8.7832
Solubility	:	No data available.
Partition coefficient: n-octanol/water	:	No data available.
Autoignition temperature	:	No data available.
Decomposition temperature	:	No data available.

10. STABILITY AND REACTIVITY

REACTIVITY : No dangerous reaction known under conditions of normal use.

CHEMICAL STABILITY : Stable.

CONDITIONS TO AVOID : Extremely high temperatures, poor ventilation and excessive aging.

INCOMPATIBLE MATERIALS : Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition may produce carbon dioxide and/or carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Acrylic Acid(79-10-7)	
Additional Information	RTECS: AS4375000 burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Liver - Irregularities - Based on Human Evidence Liver - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence (Mequinol)
Aspiration hazard	No data available.
Carcinogenicity	This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Acrylic acid) 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. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Dermal	No data available.
Germ cell mutagenicity	Laboratory experiments have shown mutagenic effects.
LC50 Inhalation - Rat	>5,100 mg/m ³ - 4 h
LD50 Oral - Mouse	830 mg/kg
Reproductive toxicity	No data available.

Respiratory or skin sensitization	Guinea pig Did not cause sensitization on laboratory animals.
Serious eye damage/eye irritation	Eyes - Rabbit Result: Severe eye irritation
Skin corrosion/irritation	Skin - Rabbit Result: Severe skin irritation - 24 h
Specific target organ toxicity - repeated exposure	No data available.
Specific target organ toxicity - single exposure	Inhalation - May cause respiratory irritation. - Respiratory system.
Acrylonitrile(107-13-1)	
Additional Information	RTECS: AT5250000 Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence (Mequinol)
Aspiration hazard	No data available.
Carcinogenicity	Possible human carcinogen IARC: 2B - Group 2B: Possibly carcinogenic to humans (Acrylonitrile) NTP: Reasonably anticipated to be a human carcinogen (Acrylonitrile) OSHA: OSHA specifically regulated carcinogen (Acrylonitrile)
Germ cell mutagenicity	No data available.
LD50 Dermal - Rabbit	226.mg/kg
LD50 Inhalation - Rat	2.09 mg/l - 4 h, Rat male
LD50 Oral - Rat Acute Toxicity	81 mg/kg
Reproductive toxicity	Suspected human reproductive toxicant.
Respiratory or skin sensitization	Maximization Test GPMT, Guinea pig Result: May cause sensitization by skin contact. (OECD Test Guideline 406) Germ cell mutagenicity
Serious eye damage/eye irritation	Eyes - Rabbit Result: Risk of serious damage to eyes.
Skin corrosion/irritation	Skin - Rabbit Result: Skin irritation (OECD Test Guideline 404)
Specific target organ toxicity - repeated exposure	No data available.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Aliphatic Solvent(64742-47-8)	
Acute Dermal toxicity	No data available.
Acute Inhalation toxicity	No data available.
Acute toxicity	No data available.
Additional Information	RTECS: Not available Prolonged or repeated exposure to skin causes defatting and dermatitis., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Aspiration hazard	No data available.
Carcinogenicity	IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Distillates (petroleum), hydrotreated light, kerosene - unspecified) 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. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Germ cell mutagenicity	Reverse mutation assay S. typhimurium Result: negative
Reproductive toxicity	No data available.
Respiratory or skin sensitization	Draize Test - Guinea pig Result: Does not cause skin sensitization.
Serious eye damage/eye irritation	Eyes - Rabbit Result: No eye irritation
Skin corrosion/irritation	Skin - Rabbit Result: No skin irritation - 4 h
Specific target organ toxicity - repeated exposure	No data available.
Specific target organ toxicity - single exposure	No data available.
Aluminum Hydroxide(21645-51-2)	
Additional Information	RTECS: BD0940000 Nausea, Vomiting, and Constipation.

Aspiration hazard	No data available.
Carcinogenicity	IARC: No components 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 a 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. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Dermal	No data available.
Germ cell mutagenicity	Mouse lymphocyte Result- negative Mutagenicity (micronucleus test) Rat - male Result: negative
Inhalation	No data available.
LD50 Oral - Rat - female - Acute toxicity	>5,000 mg/kg, Oral - Rat - female
Reproductive toxicity	No data available.
Respiratory or skin sensitization	Maximization Test (GPMT) - Guinea pig Result- Does not cause skin sensitization.(OECD Test Guideline 406)
Serious eye damage/eye irritation	Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405)
Skin corrosion/irritation	Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404)
Specific target organ toxicity - repeated exposure	No data available.
Specific target organ toxicity - single exposure	No data available.
Amorphous Silica(7631-86-9)	
Additional toxicological information	The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and information provided to us.
Irritant of skin	Not irritating (rabbit) (OCED 404)
Irritatant of eyes	Not irritating (rabbit) (OCED 405)
LC0 - Inhalative	>140->2000 mg/m3 / 4 h (Rat) (OCED 403)
LD50 - Dermal - Rabbit	>5000 mg/kg (Rabbit)
LD50 - Oral - Rat	>5000 mg/kg (Rat) (OECD 401)
Other information - Oral	=> 1340 mg/kg/day
Sensitization	Not sensitizing (guinea pig) (OCED 406)
Benzyl butyl phthalate(85-68-7)	
Additional Information	Repeated dose toxicity - Rat - male - Oral - No observed adverse effect level - 550 mg/kg RTECS: TH99990000 May cause endocrine disruption. Pancreas -.
Aspiration hazard	No data available.
Carcinogenicity	This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Benzyl butyl phthalate) ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a 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. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Germ cell mutagenicity	Ames test S. typhimurium Result: negative
Inhalation	No data available.
LD50 Dermal - Rabbit	>10,000 mg/kg, Dermal - Rabbit
LD50 Oral - Rat - Acute toxicity	2,330 mg/kg, Oral - Rat - (OECD Test Guideline 401)
Reproductive toxicity	Presumed human reproductive toxicant Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.
Respiratory or skin sensitisation	Guinea pig Result: Does not cause skin sensitization.
Serious eye damage/eye irritation	No data available.
Skin corrosion/irritation	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Specific target organ toxicity - single exposure	No data available.

Diethylene glycol n-butyl ether(112-34-5)	
Additional Information	Repeated dose toxicity - Rat - male and female - Oral - No observed adverse effect level - 250 mg/kg RTECS: KJ9100000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence
Aspiration hazard	No data available.
Carcinogenicity	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 a 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. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Inhalation	The LC50 has not be determined.
LD Dermal - Rabbit	2,764 mg/m3
LD50 Oral - Mouse-male	2,410 mg/m3
LD50 Oral - Rat - male	3,305 mg/kg
Repeated Dose Toxicity	In animals, effects have been reported on the following organs: Blood. kidney. Liver
Reproductive toxicity	In animals studies, did not interfere with reproduction. However, body weights of newborn animals were decreased.
Respiratory or skin sensitization	Maximization Test GPMT,Guinea pig Result: Does not cause skin sensitization. (OECD Test Guideline 406)
Serious eye damage/eye irritation	May cause severe eye irritation. May cause slight corneal injury.
Skin corrosion/irritation	Skin - Rabbit Result: Mild skin irritation - 1 h (OECD Test Guideline 404)
Specific target organ toxicity - repeated exposure	No data available.
Specific target organ toxicity - single exposure	No data available.
Ethylene glycol mono butyl ether(111-76-2)	
Aspiration toxicity	Remarks: No data available.
Carcinogenicity	Species mouse, Application Route: Inhalation, Exposure time 2 yr, Activity duration: 6 h, Frequency of Treatment: 5 days/week, NAOEL: 125 ppm Result: Limited evidence of carcinogenic effects with no relevance to humans., Carcinogenicity-Assement: Not evidence of carcinogenicity in animal studies..
Further information	Product Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.,
Germ cell mutagenicity	Genotoxicity in vitro: Test Type: Mammalian cell gene mutation assay; Test species: Chinese hamster (CHO), Metabolic activation: with and without metabolic activation. Result: negative., Genotoxicity in vivo: Test Type: In vivo micronucleus test., Test species:: mouse (male), application Route: Intraperitoneal, Result: negative., Germ cell mutagenicity Assessment: Tests on bacterial or mammalian did not show mutagenic effects.
LC50 (rat) inhalation	Acute inhalation toxicity: 500 ppm, Exposure time: 4 h; Assessment: the component/mixture is moderately toxic after short term inhalation.
LC50 (rat) Oral	Acute toxicity estimate: 500 mg/kg; Method: Expert judgment.; Assessment: the component/mixture is moderately toxic after single ingestion.
LD50 (rat) dermal	Acute toxicity estimate: 1,1000 mg/kg; Method: Expert judgment; Assessment: the component/mixture is moderately toxic after single contact with skin.
Repeated dose toxicity	Species: rat NOAEL: 30, Application Route: Inhalation Exposure time: 14 wk Number of exposures: 6 h/d, 5 d/wk.
Reproductive toxicity	Effects on fertility : Test Type: Two-generation study Species: mouse Application Route: oral Fertility: NOAEL: 720 mg/kg body weight Symptoms: Reduced fertility Result: Reduced fertility at maternally toxic doses Effects on fetal development : Test Type: Embryo-fetal development Species: rat Application Route: Inhalation Duration of Single Treatment: 10 d Frequency of Treatment: 6 hr/day Developmental Toxicity: Lowest observed adverse effect level: 100 ppm Result: Developmental toxicity occurred at maternal toxicity dose levels Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments
Respiratory or skin sensitisation	Test Type: Maximization test, Species guinea pig, Result: Did not cause sensitization on laboratory animals.
Serious eye damage/eye irritation	Species rabbit, Exposure time 24 h, Result: Irritating to eyes.
Skin corrosion/irritation	Remarks: Moderate skin irritation in susceptible persons., Species rabbit, Exposure time 24 h, Result: Mild skin irritation
STOT - repeated exposure	No data available.

STOT - single exposure	No data available.
Ethylene Glycol(107-21-1)	
Aspiration hazard	No aspiration toxicity classification.
Carcinogenicity	Species: mouse, (male, female), Application Route: Oral, Exposure time: 24 months, Dose: 0, 40, 200, 1000 mg/kg, daily, LOAEL: 1,000 mg/kg, Result: Ambiguous., Carcinogenicity - Assessment: Not classified as a human carcinogen.
Further information	Remarks: No data available.
Germ cell mutagenicity	Test Type: Ames test, Metabolic activation: with and without activation, Method OECD Test Guideline 471, Result: negative, GLP: yes.
LC50 Inhalation Toxicity - (Rat)	>2.5 mg/l, Exposure time: 6 h, Test atmosphere: dust/mist. Assessment: The substance or mixture has no acute inhalation toxicity.
LD50 Dermal Toxicity (Mouse)	>3,500 mg/kg, Assessment: The substance or mixture has no acute dermal toxicity.
LD50 Oral - Rat Acute toxicity	2,000 mg/kg, Assement: This component/mixture is moderately toxic after single ingestion.
Reproductive toxicity	Results: No reproductive effects.
Respiratory or skin sensitisation	Test Type: Maximization Test (GPMT), Species: guinea pig, Result: Did not cause sensitisation on laboratory animals.
Serious eye damage/eye irritation	Species: rabbit, Result: No eye irritation, Exposure time 24 h, Method: In vivo.
Skin corrosion/irritation	Skin - Rabbit Result, Exposure time: 20 h, Method: In vivo, Result: No skin irritation.
Specific target organ toxicity - repeated exposure	Oral - May cause damage to organs through prolonged or repeated exposure. - Kidney
Specific target organ toxicity - single exposure	No data available.
Styrene(100-42-5)	
Irritation / corrosion - Eye	Species: Rabbit; Result: non-irritant; Method: BASF - Test
Irritation / corrosion - Sensitization	Species: Guinea pig; Result: non-sensitization; Method: OECD Guideline 406.
Irritation / corrosion - Skin	Species: Rabbit; Result: non-irritant; Method: BASF - Test
LC50 Dermal - Rat	Not determined
LC50 Inhalation - Rat	Exposure time 4 h ; not determined
LD50 Oral - Rat	>5,000 mg/kg
Titanium Dioxide(13463-67-7)	
Carcinogenicity	In lifetime inhalation studies rats were exposed for 2 years to respectively 10, 50, 250 mg/m3 of respirable TiO2.
Dermal ALD (rabbit)	>10000 mg/m3
Eye irritation	slight irritation
Inhalation 4 h ALC	>6.82 mg/l
ORAL ALD (rat)	>2400 mg/kg
Sensitsation	Did not cause sensitisation on laboratory animals.
Skin irritation	slight irritation
Trizinc Bis(Orthophosphate) *2-4 H2O(7779-90-0)	
Additional Information	RTECS: TD0590000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Aspiration hazard	No data 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 a 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. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Dermal	No data available.
Germ cell mutagenicity	No data available.
Inhalation	No data available.
LD50 Intraperitoneal - Mouse	552 mg/kg, Remarks: Lungs, Thorax, or Respiration: Other changes.
LD50 Oral - Rat - Acute toxicity	>5,000 mg/kg, (OECD Test Guideline 401)
Reproductive toxicity	No data available.
Respiratory or skin sensitization	No data available.
Serious eye	Eyes - Rabbit Result: No eye irritation - 72 h (OECD Test Guideline 405)

damage/eye irritation	
Skin corrosion/irritation	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Specific target organ toxicity - single exposure	No data available.
Zinc Oxide(1314-13-2)	
Carcinogenicity	No data available.
Carcinogenicity	No data available. Not listed as an IARC Carcinogen. Not listed in the NTP report on carcinogens.
Chronic toxicity	NAOEL- 50 mg/day (based on human clinical studies)
Dermal	No data available.
Ingestion	No known significant effects or critical hazards.
Inhalation	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the respiratory tract.
LC50 Inhalation - Mouse	2,500 mg/m ³ , Mouse
LD50 Oral - Mouse - Acute toxicity	7,950 mg/kg, Oral - Mouse
LD50 Oral - Rat - Inhalation - Acute toxicity	7,950 mg/kg, Inhalation - Rat, (Encyclopedia of Toxicity: Reference Book 2005)
Mutagenicity	No data available.
Mutagenicity	No data available.
Reproductive toxicity	No data available.
Serious eye damage/eye irritation	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
Serious eye damage/eye irritation	No data available.
Skin corrosion/irritation	No data available.
Skin corrosion/irritation	No known significant effects or critical hazards.
Teratogenicity	No data available.

12. ECOLOGICAL INFORMATION

Acrylic Acid(79-10-7)	
Bioaccumulative potential	No data available.
EC50 Toxicity to algae - <i>Desmodesmus subspicatus</i>	0.04 mg/l - 96 h, <i>Desmodesmus subspicatus</i> (green algae)
EC50 Toxicity to daphnia and other aquatic invertebrates - <i>Daphnia magna</i>	95 mg/l - 48 h, <i>Daphnia magna</i> (Water flea)
LC50 Toxicity to fish - <i>Oncorhynchus mykiss</i>	27 mg/l - 96 h, <i>Oncorhynchus mykiss</i> (rainbow trout)
Mobility in soil	No data available.
Other adverse effects	Other adverse effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life.
Persistence and degradability	Biodegradability Biotic/Aerobic - Exposure time 28 d Result: 100 % - Readily biodegradable
Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Acrylonitrile(107-13-1)	
Bioaccumulative potential	Bioaccumulation <i>Lepomis macrochirus</i> - 14 d - 9.94 µg/l Bioconcentration factor (BCF): 48
EC50 Toxicity to daphnia and other aquatic invertebrates - <i>Daphnia magna</i>	7.4 - 10.0 mg/l - 48 h, <i>Daphnia magna</i> (Water flea)
Mobility in soil	No data available.
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.

Persistence and degradability	Biodegradability Biotic/Aerobic - Exposure time 28 d
Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Aliphatic Solvent(64742-47-8)	
Bioaccumulative potential	No data available.
EC50 (Daphnia Magna) Tocicity to daphnia and other aquatic invertebrates	1.4 mg/l - 48 h, - Daphnia magna (Water flea), (OECD Test Guideline 202)
LC50 (Rainbow trout) Toxicity to fish	2.9 mg/l - 96 h, Oncorhynchus mykiss (rainbow trout)
Mobility in soil	No data available.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life. No data available.
Persistence and degradability	No data available.
Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
Aluminum Hydroxide(21645-51-2)	
Bioaccumulative potential	Inert material.
EC50 - Daphnia - Toxicity to daphnia and other aquatic invertebrates	>10,000 mg/l, Daphnia magna (Water flea) (OECD Test Guideline 202)
EC50 - Fish - Toxicity to fish	>10,000 mg/l, Fish
Mobility in soil	Inert material.
NOEC - Toxicity to algae	>0.004 mg/l, 72 h, Pseudokirchneriella subcapitata (algae) - (OECD Test Guideline 201)
Other adverse effects	None known.
Persistence and degradability	Non-degradable
Amorphous Silica(7631-86-9)	
Additional ecological information	General notes: Do not allow product to reach ground water, water course or sewage system.
Bioaccumulative potential	No further revelent information available.
EC50 - Algae	>10000 mg/l (Scenedesmus subspicatus) (72 h) (OCED 201) comparable substance
EC50 - Daphnia magna	>1000 mg/l (Daphnia magna) (24 h) (OCED 202)
LCO - Zebra fish	10000 mg/l (zebra fish) (96 h) (static) (OCED203)
Mobility in soil	No further revelent information available.
Persistence and degradability	The product is chemically and biologically inert. By the insolubility in water there is a seperstion at every filtration and sedimentation process.
Benzyl butyl phthalate(85-68-7)	
Bioaccumulative potential	Bioaccumulation Lepomis macrochirus (Bluegill) - 21 d - 0.00973 mg/l Bioconcentration factor (BCF)- 663 12.4
EC50 - Desmodesmus subspicatus -Toxicity to algae	0.31 mg/l - 72 h, Desmodesmus subspicatus (green algae), (OECD Test Guideline 201)
LC50 - Daphnia magna - Toxicity to daphnia and other aquatic invertebrates	1.8 mg/l - 48 h, Daphnia magna (Water flea)
LC50 - Lepomis macrochirus - Toxicity to fish	1.7 mg/l - 96 h, Lepomis macrochirus (Bluegill)
LC50 - Pimephales promelas - flow through test	2.1 mg/l - 96 h, Pimephales promelas (fathead minnow), (OECD Test Guideline 203)
Mobility in soil	No data available.
NOEC - Oncorhynchus mykiss	0.48 mg/l - 96 h, Oncorhynchus mykiss (rainbow trout)
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects. Avoid release to the environment.
Persistence and degradability	Biodegradability aerobic - Exposure time 14 d Result: 81 % - Readily biodegradable

Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Diethylene glycol n-butyl ether(112-34-5)	
12.6 Other adverse effects	No data available.
Bioaccumulative potential	Bioconcentration potential is low (BCF <100 or Log Pow <3).
EC50 Daphnia magna - Toxicity to daphnia and other aquatic invertebrates	>100 mg/l - 48 h - Daphnia magna (Water flea), (Directive 67/548/EEC, Annex V, C.2.)
EC50 Desmodesmus subspicatus - Toxicity of algae	100 mg/l - 96 h - Desmodesmus subspicatus (Scenedesmus subspicatus) - (OECD Test Guideline 201)
LC50 Lepomis macrochirus - Toxicity to fish	1,300 mg/l - 96 h - Lepomis macrochirus (OECD Test Guideline 203)
LC50 Pseudomonas putida - Toxicity to bacteria	1170 mg/l - 16 h - Pseudomonas putida
Mobility in soil	Potential for mobility in soil very high (koc between 0 and 50).
Persistence and degradability	Biodegradability aerobic - Exposure time 28 d Result: 91.7 % - Readily biodegradable (OECD Test Guideline 301B)
Ethylene glycol mono butyl ether(111-76-2)	
Bioaccumulative potential	Partition coefficient: n-octanol/water: log Pow: 0.83
EC50 (Algae)	911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no
EC50 (Daphnia)	1,800 mg/l(48 h; Daphnia magna (Water flea)): Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: no
LC50 (fish)	1,474 mg/l Pimephales promelas (Fathead minnow))Exposure time: 96 h Test Type: static test, Method: OECD Test Guideline 203 GLP: no
Mobility in soil	No data available
Other adverse effects	No data available
Persistence and degradability	aerobic Inoculum: Activated sludge, domestic, adaption not specified, Result: Readily biodegradable. Biodegradation: 90.4 % Exposure time: 28 d Method: OECD Test Guideline 301B GLP: no
Product	Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:
Ethylene Glycol(107-21-1)	
LC50 Toxicity to daphnia and other aquatic invertebrates	>100 mg/l (Daphnia magna (water flea)), Exposure time 48 h, Test type: static test, Method: OECD Test Guideline 202, GLP: yes.
LC50 Toxicity to fish	100 mg/l (Pimephales promelas (fathead minnow)): Exposure time: 96 h, Test Type: static test
Mobility in soil	No data available.
Other adverse effects	No data available.
Persistence and degradability	Aerobic, Inoculum: Activated sludge, domestic, adaption not specified, Biodegradation: 90-100%, Exposure time 10 d, GLP: yes, Remarks: Readily biodegradable.
Results of PBT and vPvB assessment	PBT/vPvB assessment not available
Toxicity to Algae	>100 mg/l (Pseudokirchneriella subcapitata (Selenastrum capricornutum)), Exposure time 96 h, Test type: static test.
Toxicity to Bacteria	>10,000 mg/l, Exposure time: 16 h, Test type: Static, Method: DIN 38412.
Styrene(100-42-5)	
Bioaccumulation	At present state of knowledge, no negative ecological effects are expected.
Chronic	No data available regarding toxicity to Daphnia.
Chronic	No data available regarding toxicity to fish.
EC50 (Algae)	(72 h); No data available concerning toxicity for algae.
EC50 (Daphnia) Acute	(48 h) No data available regarding toxicity to daphnia.
LC50 Fish (Leuciscus idus) Acute	>100 mg/l (96 h)
Microorganisms	Toxicity to microorganisms: The inhibition of the degradation activity sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.
Titanium Dioxide(13463-67-7)	
LC50 fish	Fathead minnow 96 h >1000 mg/l
Trizinc Bis(Orthophosphate) *2-4 H ₂ O(7779-90-0)	
Bioaccumulative potential	No data available.
LC50 - Oncorhynchus	0.09 mg/l - 96 h, Oncorhynchus mykiss (rainbow trout)

mykiss - Toxicity to fish	
Mobility in soil	No data available.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.
Persistence and degradability	No data available.
Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
Zinc Oxide(1314-13-2)	
Bioaccumulative potential	No evidence to indicate significant bioaccumulative potential.
EC50 Algae - Pseudokirchneriella subcapitata - Toxicity to	0.042 mg/l Fresh water, 72 h, Algae - Pseudokirchneriella subcapitata
LC50 Daphnia magna (Water flea) - Toxicity to daphnia and other aquatic invertebrates	98 ug/l, Fresh water, 48 h, Daphnia magna (Water flea)
LC50 Inhalation dusts and mists - Rat	>5.7 mg/l - 4 h, Inhalation - Rat, Klimisch and Freisberg (1982)
LC50 Oncorhynchus mykiss (rainbow trout)	1.1 to 2.5 ppm, Fresh water, 96 h, Oncorhynchus mykiss (rainbow trout)
LD50 Oral - Rat	>5,000 mg/kg, Oral - Rat, Loser (1971)
LD50 Oral - Rat	15,000 mg/kg, Oral - Rat, Loser (1972)
Mobility in soil	No evidence to indicate significant mobility in soil.
Other adverse effects	None
Other adverse effects	Very toxic to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence and degradability	No data available.
Persistence and degradability	Not rapidly degradable.
Results of PBT and vPvB assessment	ZnO is not PBT or vPvB.

13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

GENERAL INFORMATION : No data available.

DISPOSAL METHOD: Recycle whenever possible or destroy by liquid incineration in accordance with applicable regulations. Contaminated absorbent should be incinerated or sent to an approved landfill in accordance with Local, State, and Federal Regulations.

14. TRANSPORT INFORMATION

***CHECK WITH YOUR CARRIER FOR ADDITIONAL RESTRICTIONS THAT MAY APPLY.**

USDOT GROUND

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME (DOT) : Not Regulated By D.O.T., 49 CFR

HAZARDS CLASS : Not Applicable

UN/NA NUMBER : Not Applicable

PACKING GROUP : Not Applicable

EMERGENCY RESPONSE GUIDE (ERG) : Not Applicable

IATA (AIR)

DOT (INTERNATIONAL AIR TRANSPORTATION ASSOCIATION)

PROPER SHIPPING NAME : IATA, Not Applicable

HAZARDS CLASS : Not Applicable

UN/NA NUMBER : Not Applicable

PACKING GROUP : Not Applicable

EMERGENCY RESPONSE GUIDE (ERG) : Not Applicable

IMDG (OCEAN)

PROPER SHIPPING NAME : IMDG, Not Applicable

HAZARDS CLASS : Not Applicable

UN/NA NUMBER : Not Applicable

PACKING GROUP : Not Applicable

EMERGENCY RESPONSE GUIDE (ERG) : Not Applicable

MARINE POLLUTANT : No

SPECIAL PRECAUTIONS : P403 Store in a well-ventilated place. P235 Keep cool.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

All ingredients in Section #3 are TSCA (Toxic Substance Control Act) listed.

OSHA HAZARDS : Flammable liquid, Moderate skin irritant, Moderate eye irritant, Carcinogen.

EPCRA - Emergency

CERCLA REPORTABLE QUANTITY

This product contains:	Chemical CAS#
Ethylene glycol mono butyl ether	111-76-2
Ethylene Glycol	107-21-1

SARA 304 Extremely Hazardous Substances Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SARA 311/312 Hazards : Fire Hazard, Acute Health Hazard, Chronic Health Hazard

SARA 313 :

This product contains:	Chemical CAS#
Diethylene glycol n-butyl ether	112-34-5
Ethylene glycol mono butyl ether	111-76-2
Zinc Oxide	1314-13-2
Trizinc Bis(Orthophosphate) *2-4 H ₂ O	7779-90-0
Titanium Dioxide	13463-67-7

CLEAN AIR ACT :

This product contains:	Chemical CAS#
Diethylene glycol n-butyl ether	112-34-5
Ethylene Glycol	107-21-1
Styrene	100-42-5
Acrylic Acid	79-10-7

INTERNATIONAL REGULATIONS

CLASSIFICATION ACCORDING TO REGULATION (EC) No. 1272/2008 (CLP) :

Eye Irrit. Cat. 2; H319

Acute Tox. Inhal. H332

Acute Aquatic Tox. 1 H410

NATIONAL REGULATIONS

This product contains:	Chemical CAS#
#Titanium Dioxide	13463-67-7

Indicates a chemical listed by IARC as a possible carcinogen.

STATE REGULATIONS

CALIFORNIA PROPOSITION 65

This product contains:	Chemical CAS#
+Benzyl butyl phthalate	85-68-7
*Aliphatic Solvent	64742-47-8
*Acrylonitrile	107-13-1

*This product contains (a) chemical (s) known to the State of California to cause cancer.

#This product contains (a) chemical (s) known to the State of California to be carcinogenic.

+This product contains (a) chemical (s) known to the State of California to cause birth defects or other reproductive harm.

Massachusetts Right to Know

This product contains	Chemical CAS#
Ethylene glycol mono butyl ether	111-76-2
Benzyl butyl phthalate	85-68-7
Zinc Oxide	1314-13-2
Silica Gel	112926-00-8
Aliphatic Solvent	64742-47-8
Ethylene Glycol	107-21-1
Acrylic Acid	79-10-7
Acrylonitrile	107-13-1

Pennsylvania Right to Know

This product contains	Chemical CAS#
Water	7732-18-5
Diethylene glycol n-butyl ether	112-34-5
Ethylene glycol mono butyl ether	111-76-2
Benzyl butyl phthalate	85-68-7
Zinc Oxide	1314-13-2
Trizinc Bis(Orthophosphate) *2-4 H ₂ O	7779-90-0
Titanium Dioxide	13463-67-7
Silica Gel	112926-00-8
Aliphatic Solvent	64742-47-8
Ethylene Glycol	107-21-1
Amorphous Silica	7631-86-9
Aluminum Hydroxide	21645-51-2
Acrylic Acid	79-10-7
Acrylonitrile	107-13-1

New Jersey Right to Know

This product contains	Chemical CAS#
Water	7732-18-5
Diethylene glycol n-butyl ether	112-34-5
Ethylene glycol mono butyl ether	111-76-2
Benzyl butyl phthalate	85-68-7
Zinc Oxide	1314-13-2
Trizinc Bis(Orthophosphate) *2-4 H ₂ O	7779-90-0
Titanium Dioxide	13463-67-7

Silica Gel	112926-00-8
Aliphatic Solvent	64742-47-8
Ethylene Glycol	107-21-1
Amorphous Silica	7631-86-9
Aluminum Hydroxide	21645-51-2
Acrylic Acid	79-10-7
Acrylonitrile	107-13-1

16. OTHER INFORMATION

Other Product Information

% Volatile by Volume: 72.20
% Solids by volume: 27.80
% Exempt by Volume: 62.90

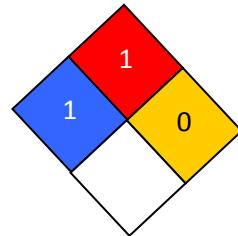
% Volatile by Weight: 67.83
% Solids by Weight: 32.17
% Exempt by Weight: 59.61

VOC CONTENT: Excluding Exempt VOC: 233
Including Exempt VOC: 87

HMIS RATING

Health :	1*
Flammability :	1
Reactivity :	0
Personal Protection :	H

NFPA CODES



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