# SAFETY DATA SHEET



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 SDS REF. No :
 A-6400-SERIES

# A-6400-SERIES POLYURETHANE AEROSOL

#### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** A-6400-SERIES POLYURETHANE AEROSOL

**PRODUCT CODE:** A-6400-SERIES

**PRODUCT USE:** Industrial Aerosol Touch Up Paint

MANUFACTURER 24 HR. EMERGENCY TELEPHONE NUMBER

CHEMTREC (US Transportation): (800)424-9300 CHEMTREC (International : 1(202)483-7616

Transportation)

WEB: WWW.CARDINALPAINT.COM

S. El Monte, CA, 626 444-9274

1329 Potrero Ave

#### 2. HAZARDS IDENTIFICATION

Cardinal Industrial Finishes

#### **PICTOGRAMS**



**SIGNAL WORD: DANGER** 

#### **HAZARD STATEMENTS:**

H223 Flammable aerosol.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

#### PRECAUTIONARY STATEMENTS:

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P264 Wash thoroughly after handling.

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
Dimethyl Ether	50% - 55%	115-10-6
Acetone	25% - 30%	67-64-1

n-Butyl Acetate	5% - 10%	123-86-4
P.M. Acetate	1% - 5%	108-65-6

The follow substances may be present in varying quantities depending on color.

Titanium Dioxide	0% - 60%	13463-67-7
Carbon Black	0% - 40%	1333-86-4

#### 4. FIRST AID MEASURES

#### Description of first aid measures.

**EYES CONTACT:** Flush with large quantities of water for 15 to 30 minutes. Remove contact lenses. Keep eyes wide open while rising. If eye irritation persists: Get medical attention.

**SKIN CONTACT:** Wash exposed area with mild soap and water for 15 to 30 minutes. Remove contaminated clothing. Repeated exposure may cause dryness or cracking.

**INGESTION:** Rinse mouth. Do NOT induce vomiting. Keep victim warm and seek immediate attention.

**INHALATION:** Remove to fresh air and keep in a position comfortable to breath. Call a doctor/physician if you feel unwell. Get medical attention.

Most important symptoms and effects, both acute and delayed. Symptoms/injuries: Eye irritation

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 advice is needed, have product container or label on hand.

# **5. FIRE FIGHTING MEASURES**

**SUITABLE EXTINGUISHING MEDIA:** In the event of a fire, use specifically suitable extinguishing agents. Suitable extinguishing media: Foam, alcohol resistant foam, CO2, water fog. Unsuitable extinguishing media: Do not use heavy water stream. A heavy water stream my spread burning liquid.

**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

Acetone(67-64-1)		
USA ACGIH	ACGIH STEL TLV	750 ppm
USA ACGIH	ACGIT STEETEV  ACGIT TWA TLV	500 ppm
USA NIOSH	NIOSH STEL (Table Z-1)	1,000 ppm, 2,400 mg/m3
USA NIOSH	NIOSH TWA	250 ppm, 590 mg/m3
USA OSHA	OSHA TWA (Table Z-1)	1,000 ppm, 2,400 mg,m3
Aluminum Hydroxide(21645-51-2)	USITA TWA (Table Z-1)	1,000 ppiii, 2,400 mg,m3
USA ACGIH	ACGIH (TLV) TWA	10 mg/m3 (Total dust), 3 mg/m3
USA ACGIN	ACGIR (ILV) IWA	
USA OSHA	OSHA (PEL) TWA	(Respirable fraction) 15 mg/m3 (Tptal dust), 5 mg/m3
USA USHA	OSHA (PEL) TWA	(Respirable fraction)
Carbon Black(1333-86-4)		(Respirable fraction)
USA ACGIH	ACGIH TLV (mg/m3)	3.0 mg/m3
USA OSHA	OSHA PEL (mg/m3)	3.5 mg/m3
Dibutyltin Dilaurate(77-58-7)	OSHA FEE (HIG/HIS)	J.J Hlg/HJ
USA ACGIH	ACGIH STEL	0.2 mg/m3
USA ACGIH	ACGIH STEL	0.1 mg/m3
USA NIOSH	NIOSH REL	0.1 mg/m3
USA OSHA	OSHA PEL (Table Z-1)	0.1 mg/m3
USA OSHA	OSHA TWA (Table Z-1A)	0.1 mg/m3
Dimethyl Ether(115-10-6)	LICA (MEEL) TMA	T + 000
USA (WEEL)	USA (WEEL) TWA	1,000 ppm
Hexamethylene Diisocyanate(822-06-0)	LACOTH TIM (TIMA)	T 0 0050
USA ACGIH	ACGIH TLV (TWA)	0.0050 ppm
USA NIOSH	NIOSH REL	0.02 ppm, 0.14 mg/m3
USA NIOSH	NIOSH REL (TWA)	0.0050 ppm, 0.035mg/m3
Homopolymer of Hexamethylene Diisocy		T =
•	Additional Protective Measures	Emergency showers and eye wash
		stations should be available. Educate
		and train employees in the safe use
		and handling of this product. Follow all
	For make the	label instructions.
	Eye protection	When directly handling liquid product,
		eye protection is required. Examples of
		eye protection include a chemical
		safety goggle or chemical safety
		goggle in combination with a full face
		shield when there is a greater risk of
	Hand protection	splash. Gloves should be worn. Nitrile rubber
	Hand protection	
		gloves. Butyl rubber gloves. Neoprene gloves
	Industrial Hygiene/Ventilation	Good industrial hygiene practice
	Measures	dictates that worker protection should
	riedaules	be achieved through engineering
		controls, such as ventilation, whenever
		feasible. When such controls are not
		feasible to achieve full protection, the
		use of respirators and other personal
		protective equipment is mandated.
	L	protective equipment is manuated.

		Exhaust air may pood to be cleaned by		
		Exhaust air may need to be cleaned by scrubbers or filters to reduce		
		environmental contamination. Curing		
		ovens must be ventilated to prevent		
		emissions into the workplace. If oven		
		off-gases are not vented properly (i.e.		
		they are released into the work area),		
		it is possible to be exposed to airborne		
		monomeric HDI.		
	Respiratory protection	A respirator that is recommended or		
		approved for use in isocyanate-		
		containing environments (air-purifying		
		or fresh air-supplied) may be		
		necessary for spray applications or		
		other situations such as high		
		temperature use which may produce		
		inhalation exposures. SPRAY		
		APPLICATION: A. Good industrial		
		hygiene practice dictates that when		
		isocyanate-based coatings are spray		
		applied, some form of respiratory		
		protection should be worn. During the		
		spray application of coatings containing		
		this product the use of a supplied-air		
		(either positive pressure or continuous		
		flow-type) respirator is mandatory		
		when ONE OR MORE of the following		
		conditions exists: -the airborne		
		isocyanate concentrations are not		
		known; or -the airborne isocyanate		
		monomer concentrations exceed 0.05		
		ppm averaged over eight (8) hours (10		
		times the 8 hour TWA exposure limit);		
		or		
	Respiratory protection (con't)	-the airborne isocyanate monomer		
		concentrations exceed 0.05 ppm		
		averaged over eight (8) hours (10		
		times the 8 hour TWA exposure limit);		
		or -the airborne polyisocyanate		
		(polymeric, oligomeric) concentrations		
		exceed 5 mg/m3 averaged over 8		
		hours or 10 mg/m3 averaged over 15		
		minutes (10 times the 8 hour TWA or		
		the 15 minute STEL exposure limits);		
		or -operations are performed in a		
		confined space (See OSHA Confined		
		Space Standard, 29 CFR 1910.146).		
	Skip and hody protection	Avoid all skin contact. Depending on		
•	Skin and body protection			
		the conditions of use, cover as much of		
		the exposed skin area as possible with		
		appropriate clothing to prevent skin		
		contact., Gloves, long sleeved shirts		
F	CTEL	and pants.		
Exposure Limit	STEL	1.0 mg/m3 (15-min)		
Exposure Limit	TWA	0.5 mg/m3		
Isobutyl Alcohol(78-83-1)	1	I =-		
USA ACGIH	ACGIH TWA	50 ppm		
USA OSHA	OSHA PEL	100 ppm, 300 mg/m3		
Methyl Amyl Ketone(110-43-0)				
USA ACGIH	ACGIH TLV TWA	50 ppm		
USA OSHA	OSHA PEL (Table Z-1)	100 ppm, 465 mg/m3		
Methyl Ethyl Ketone(78-93-3)				
USA ACGIH	ACGIH STEL (ppm)	300 ppm		
USA ACGIH	ACGIH TWA (ppm)	200 ppm		
USA OSHA	OSHA PEL (STEL) (ppm)	100 ppm		
USA OSHA	OSHA PEL TWA (mg/m3)	410 mg/m3		
n-Butyl Acetate(123-86-4)		13/		
USA ACGIH ACGIH STEL 200 ppm				
USA ACGIH	ACGITISTEE ACGIH TWA	150 ppm		
USA OSHA	OSHA PEL (Table Z-1)	150 ppm, 710 mg/m3		
03A 03HA	OSTIM FEE (Table 7-1)	Too bhiii' \ To IIId\IIIO		

P.M. Acetate(108-65-6)			
USA AIHA	AIAH (WEEL) TWA	50 ppm	
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	

#### PERSONAL PROTECTIVE EQUIPMENT

**RESPIRATORY PROTECTION:** If TLV of the product or any component is exceeded, a NIOSH approved dust respirator is advised in absence of environmental control. OSHA Regulations also permit other NIOSH dust 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:** Eye wash bottle with pure water.

Tightly fitting safety goggles.

Where face-shield and protective suit for abnormal processing problems.

**SKIN AND BODY PROTECTION:** Wear impervious clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**WORK HYGIENIC PRACTICES:** When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	T .	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	:	-13.0 deg F TO 294.0 deg F
Flash point	:	-42.00 deg F
Lower explosion limit	:	1.5
Upper explosion limit	:	27.0
Vapor pressure	:	185 mm Hg
Vapor density	:	Heavier than air
Relative density	:	No data available.
Density	:	6.7049
Solubility	:	No data available.
Partion coefficient: n-	:	No data available.
octanol/water		
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 under normal conditions.

**CONDITIONS TO AVOID:** Heat, flames and sparks. Extremely high temperatures and direct sunlight.

**INCOMPATIBLE MATERIALS:** Avoid contact with strong oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

# 11. TOXICOLOGICAL INFORMATION

Acetone(67-64-1)	
Aspiration toxicity	Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above TLV value may cause narcotic effects., Solvents may degrease the skin.
Carcinogenicity	Species: mouse, (female), Application Route: Dermal; Exposure time: .365 d (90%) or 424 d (100%), Dose: 0.1ml 90(71mg) or 100% (79mg), Frequency of Treatment: 3 times a wk, NOAEL: 79; Result: did not display carcinogenic properties., Carcinogenicity-Assessment: Not classified as a human carcinogen.
Germ cell mutagenicity	Test Type: mammalian cell gene mutation assay. Test species: Mouse Lymphoma, Metabolic activation: Without metabolic activation; Method: OECD Guideline 476; Result: negative; Test Type: Ames test, Metabolic activation: Without metabolic activation; Method: OECD Guideline 471; Result: negative, Test Type: Chromosome aberration test in vitro, Test species: Chinese hamster ovary (CHO), Metabolic activation: Without metabolic activation; Method: OECD Guideline 473; Result: negative; Genotoxicity in vivo: Test Type: I vivo micronucleus test. Test species: Mouse, Application Route: Oral, Exposure: 13 wk, Dose: 5,000, 10,000, 20,000 ppm, Result: negative
Germ cell mutagenicity Assessment	Animal testing did not show any mutagenic effects.
LC50 (rat) Inhalation	76 mg/l (4 h exposure)
LD50 (rat) Oral	5,800 mg/kg; Symptoms: tremors
LD50 Dermal	>7,426 mg/kg
Repeated dose exposure	Species: mouse, male, NOAEL: 20,000, Application Route: Oral, Exposure time: 13 wk, Number of exposures: daily, Dose: 1250, 2500, 5000, 10000, 20000, Method OECD Test Guideline 408, GLP: No data available.; Species: mouse, female, NAOEL 20000, LAOEL: 50000; Application Route: Oral, Exposure time: 13 wk, Number of exposures: daily, Dose: 1250, 2500, 5000, 10000, 20000, Method OECD Test Guideline 408, GLP: No data available; Repeated dose toxicity Assessment: causes mild skin irritation., Causes serious eye irritation.
Reproductive toxicity	Effects on fertility: Species: rat, male; Application Route: oral; Dose: 0, 5,000, 10,000 mg/l; Frequency of Treatment: 7 days/week; General Toxicity - Parent: LOAEL: 10,000; Fertility: 10,000; Effects on fetal development: Species: rat; Application Route: Inhalation; Dose: 0, 440, 2200, 11,000 ppm; Frequency of Treatment: 7 days/week; General Toxicity Material: NOAEC: 2,200 ppm; Tetragenicity: NOAEC: 2,200 ppm; Embryo-fetal toxicity:: NOAEC: 2,200 ppm; Result: No teratogenic potential. GLP: No data available.; Reproductive toxicity Assessment: Did not show teratogenic effects in animal experiments.
Respiratory or skin sensitsation	Test type: Maximization test, Species: guinea pig, Assessment: Does not cause skin sensitsation. Result: Did not cause sensitization on laboratory animals.
Serious eye damage/eye irritation	Species: rabbit, Result: Slightly irritating to eyes, Exposure time: 24 h, Classification: Irritating to eyes, Remarks: Eye irritation.
Skin corrosion/irritation	Species: rabbit, Exposure time: 24 h, Classification: Not irritating to skin, Method: In vivo, Result: Mild irritation, Remarks: Repeated or prolonged contact with the mixture may cause removal natural fat from the skin resulting in desiccation of the skin.
STOT - single exposure STOT- repeated	Exposure routes: Inhalation (vapor); Assessment: May cause drowsiness or dizziness.  No data available.
exposure	C4F F1 2)
Aluminum Hydroxide(21 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	No data available.

tovicity repeated	I
toxicity - repeated exposure	
Specific target organ	No data available.
toxicity - single	No data avallable.
exposure	
Amorphous Silica(7631-	86-9)
Additional toxicological	The product is not subject to classification according to internally approved calculation methods
information	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 -	=> 1340 mg/kg/day
Oral	
Sensitization	Not sensitizating (guinea pig) (OCED 406)
Carbon Black(1333-86-4	4)
ACGIH	ACGIH The American Conference of Governmental Industrial Hygienists classifies carbon black as
	A4, Not Classifiable as a Human Carcinogen.
Carcinogenicity	GHS- Not a hazardous substance or preparation according to the Global Harmonized System
Classification	(GHS).
Human Epidemiology	Results of epidemiological studies of carbon black production workers suggest that cumulative
	exposure to carbon black may result in small decrements in lung function, as measured by FEV1.
	A recent U.S. respiratory morbidity study suggested a 27 mL decline in FEV1 from a 1 mg/m3
	(inhalable fraction) exposure over a 40-year period. An older European investigation suggested
	an exposure to 1 mg/m3 (inhalable fraction) of carbon black over a 40-year working-lifetime will
	result in a 48 mL decline in FEV1. In contrast, normal age related decline over a similar period of
	time would be approximately 1200 ml. The relationship between symptoms and exposure to
	carbon black is less clear. In the U.S. study, 9% of the highest exposure group (in contrast to
	5% of the unexposed group) reported symptoms consistent with chronic bronchitis. In the European study, methodological limitations in the administration of the questionnaire limit the
	drawing of definitive conclusions about symptoms.
Human Epidemiology -	Since this IARC evaluation of carbon black, Sorahan and Harrington 16) re-analyzed the UK
cont	study data using an alternative exposure hypothesis and found a positive association with
Conc	carbon black exposure in two of the five plants. The same exposure hypothesis was applied by
	Morfeld and McCunney 17-18) to the German cohort; in contrast, they found no association
	between carbon black exposure and lung cancer risk and, thus, no support for the alternative
	exposure hypothesis used by Sorahan and Harrington 16).
Human Epidemiology -	Morfeld and McCunney 19) applied a Bayesian approach to unravel the role of uncontrolled
cont.	confounders and identified smoking and prior exposure to occupational carcinogens received
	before being hired in the carbon black industry as main causes of the observed lung cancer
	excess risk. Overall, as a result of these detailed investigations, no causative link between
	carbon black exposure and cancer risk in humans has been demonstrated. This view is
	consistent with the IARC evaluation in 2006. Several epidemiological and clinical studies of
	workers in the carbon black production industries show no evidence of clinically significant
	adverse health effects due to occupational exposure to carbon black. No dose response
	relationship was observed in workers exposed to carbon black.
Human Epidemiology -	This study, however, indicated a link between carbon black and small opacities on chest films,
cont.	with negligible effects on lung function. A study on carbon black production workers in the UK
	10) found an increased risk of lung cancer in two of the five plants studied; however, the
	increase was not related to the dose of carbon black. Thus, the authors did not consider the
	increased risk in lung cancer to be due to carbon black exposure. A German study of carbon
	black workers at one plant 11-14) found a similar increase in lung cancer risk but, like the 2001 UK study 10), found no association with carbon black exposure. In contrast, a large US study
	15) of 18 plants showed a reduction in lung cancer risk in carbon black production workers.
	Based upon these studies, the February 2006 Working Group at IARC concluded that the human
	evidence for carcinogenicity was inadequate 1) .l
IARC	IARC In 1995 IARC concluded, "There is inadequate evidence in humans for the carcinogenicity
	of carbon black." Based on rat inhalation studies IARC concluded that there is, "sufficient
	evidence in experimental animals for the carcinogenicity of carbon black," IARC's overall
	evaluation was that, "Carbon black is possibly carcinogenic to humans (Group 2B)". This
	conclusion was based on IARC's guidelines, which require such a classification if one species
	exhibits carcinogenicity in two or more studies. IARC performed another review in 2006, and
	again classified carbon black as possibly carcinogenic to humans (Group 2B). In its 1987 review
	IARC concluded, "There is sufficient evidence in experimental animals for the carcinogenicity of
	carbon black extracts." Carbon black extracts are classified as, possibly carcinogenic to humans
1 1	(Group 2B).
LD50 (Rat)	>8000 mg/kg In an experimental investigation, mutational changes in the hprt gene were reported in alveolar
Mutagenic Effects and	

Germ Cell Mutagenicity	epithelial cells in the rat following inhalation exposure to carbon black. This observation is believed to be rat specific and a consequence of "lung overload" which led to chronic inflammation and release of genotoxic oxygen species. This mechanism is considered to be a secondary genotoxic effect and thus, carbon black itself would not be considered to be mutagenic. Carbon black is not suitable to be tested in bacterial (Ames test) and other in vitro systems because of its insolubility in aqueous solutions. When tested, however, results for carbon black showed no mutagenic effects. Organic solvent extracts of carbon black can, however, contain traces of polycyclic aromatic hydrocarbons (PAHs). A study to examine the bioavailability of these PAHs showed that PAHs are very tightly bound to carbon black and not bioavailable.
NIOSH	NIOSH The U.S. National Institute of Occupational Safety and Health (NIOSH) 1978 criteria document on carbon black recommends that only carbon blacks with PAH contaminant levels greater than 0.1% require the measurement of PAHs in air. As some PAHs are possible human carcinogens, NIOSH recommends an exposure limit of 0.1 mg/m3 for PAHs in air, measured as the cyclohexane-extractable fraction.
NTP	NTP Carbon black is not designated a carcinogen by the U.S. National Toxicology Program (NTP), the U.S. Occupational Safety and Health Administration (OSHA) or the European Union (EU).
Reproductive and Teratogenic Effects	No experimental studies on effects of carbon black on fertility and reproduction have been located. However, based on toxicokinetic data, carbon black is deposited in the lungs and based on its specific physicochemical properties (insolubility, low absorption potential), it is not likely to distribute in the body to reach reproductive organs, embryo and/or foetus under in vivo conditions. Therefore, no adverse effects of carbon black to fertility/reproduction or to foetal development are expected. No effects have been reported in long-term animal studies.
Sensitization	No animal data is available. No cases in humans have been reported.
STOT- repeated exposure	Therefore, no STOT, Repeated exposure classification is made.
STOT- single exposure	Inhalation studies with the rat showed lung effects (see Section 11.2 and 11.3), these effects are believed to be the effects of "lung overload" 1 and these effects are believed to be specific to the species. In addition, the European CLP Regulation states that no classification is necessary if the mechanism is not relevant to humans. 4) Also, the CLP Guidance on classification and labeling states that the "lung overload" mechanism is not relevant to humans. 4) Therefore, no STOT, Repeated Exposure classification is made
Dibutyltin Dilaurate(77-5	
Chronic Health Hazard	Dibutyltin compounds have shown reproductive and immunotoxic effects in laboratory animals. Abnormalities noted at necropsy of animals treated with 2000 mg/kg of dibutyltin dilaurate were hemorrhagic lungs, dark liver, dark kidneys, haemorrhage of gastric mucosa, haemorrhage of the large and small intestines, enlarged bile duct and behavioral and central nervous system effects. Decreased fertility was seen in hens following dietary administration equal to 78 mg/kg.
Eye irritation/corrosion	Severe eye irritation.
Inhalation	No data is available on the product itself.
LD50 - Rabbit (Dermal)	> 2,000 mg/kg, Method : Estimated.
LD50 - Rat (Ingestion) Skin	> 2,000 mg/kg Severe skin irritation. Corrosive to the skin of a rabbit.
irritation/corrosion	Severe skill irritation. Corrosive to the skill of a rabbit.
Dimethyl Ether(115-10-	6)
Additional Information	RTECS- PM4780000 Blurred vision, Headache, Dizziness, Convulsions, Asphyxia, Unconsciousness, Liver
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	Ames test S. typhimurium Result: negative Chromosome aberration test in vitro Human lymphocytes Result, negative OECD Test Guideline 477 Drosophila melanogaster - male Result, negative
LC50 Inhalation - Rat - Male - Acute Toxicity	16,400 ppm, 4 h, Inhalation - Rat - male. Remarks: Behavioral: Ataxia. Behavioral: General anesthetic. Behavioral: Coma.
Reproductive toxicity Respiratory or skin sensitization	No data available.  No data available.
Serious eye damage/eye irritation	No data available.
Skin	No data available.
an was alone /!!b-!!	
corrosion/irritation Specific target organ toxicity - repeated	No data available.

exposure	
Specific target organ	No data available.
toxicity - single	
exposure	
Hexamethylene Diisocya	
Additional Information	RTECS: MO1740000, 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., 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 acarcinogen 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 acarcinogen or potential carcinogen by OSHA.
Germ cell mutagenicity	Ames test, S. typhimurium, Result: negative, OECD Test Guideline 474. Mouse - male and female, Result: negative.
LC50 Inhalation - Rat	124 mg/m3 - male and female - 4 h - (OECD Test Guideline 403)
LD50 Dermal - Rat	> 7,000 mg/kg - (OECD Test Guideline 402)
LD50 Oral - Rat	959 mg/kg - male - (OECD Test Guideline 401)  No data available.
Reproductive toxicity	Maximization Test (GPMT) - Guinea pig, Result: May cause sensitization by skin contact. (OECD
Respiratory or skin sensitsation	Test Guideline 406), in vivo assay - Guinea pig, Result: May cause sensitization by inhalation.
Serious eye damage/eye irritation	Eyes - Rabbit Result: Corrosive (OECD Test Guideline 405)
Skin	Skin - Rabbit Result: Corrosive after 1 to 4 hours of exposure - 4 h (OECD Test Guideline 404)
corrosion/irritation	No data available.
Specific target organ toxicity - repeated	No data avallable.
exposure Specific target organ	No data available.
toxicity - single exposure	No data available.
	ethylene Diisocyanate(28182-81-2)
Eye irritation	rabbit, Draize, Slightly irritating
LC50 - (Rat,	390-453 mg/m3, 4 h, RD50: 20.8 mg/m3, 3 h Acute dermal toxicity
Male/Female) Acute inhalation toxicity	3, 1, , , 11 11 3, 1, 1 11 11 11 11 11 11 11 11 11 11 11
LD50 - (rabbit) Acute dermal toxicity	2,000 mg/kg
LD50 - (Rat) Acute Oral Toxicity	> 2,500 mg/kg (Rat)
Mutagenicity	Genetic Toxicity in Vitro: Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without).
Repeated dose toxicity	3 wks, inhalation: NOAEL: 3.7 - 4.3 mg/m3, (Rat) 90 d, inhalation: NOAEL: 3.3 - 3.4 mg/m3, (Rat) Irritation to lungs and nasal cavity.
Sensitization	dermal: sensitizer (Guinea pig, Maximization Test) inhalation: sensitizer (Guinea pig)
Skin irritation	rabbit, Draize, Slightly irritating.
Isobutyl Alcohol(78-83-3 Carcinogenicity Data:	The ingredient(s) of this product is (are) not classified as carcinogenic by ACGIH, IARC, OSHA or
LC50 Inhalation - Rat	NTP.     8000 ppm; (4 h)
LD50 Dermal - Rabbit	3400 mg/kg
LD50 Oral - Rat (Acute	2460 mg/kg
Toxicity)	
Mutagenicity Data:	No adverse mutagenicity effects are anticipated.
Reproductive Data:	No adverse reproductive effects are anticipated.
Respiratory / Skin Sensitization Data:	None known.
Synergistic Materials:	Alcohols may interact synergistically with chlorinated solvents (example - carbon tetrachloride, chloroform, bromotrichloromethane), dithiocarbamates (example - disulfiram),
	dimethylnitrosamine and thioacetamide.
Tetragenicity Data:	No adverse Tetragenicity effects are anticipated.
Methyl Amyl Ketone(110	No adverse Tetragenicity effects are anticipated. 0-43-0)
	No adverse Tetragenicity effects are anticipated.

10500 1 (0.1)	
LD50 Dermal - (Rat)	>2,000 mg/kg
LD50 Inhalation - (Rat)	>16.7 mg/l (4 h)
LD-50 Oral - (Rat)	1,600 mg/kg
Mutagenicity	In vitro, No data available., In vivo, No data available.
Other adverse effects	No data available.
Repeated dose toxicity	No data available.
Reproductive toxicity	No data available.
Respiratory or skin	Skin Sensitization:, (Mouse) - non-sensitizing.
sensitization	
Serious eye	(Rabbit, 24 h): slight.
damage/eye irritation	
Skin	(Rabbit, 24 h): moderate.
corrosion/irritation	
Specific target organ	No data available.
toxicity - repeated	
exposure	
Specific target organ	No data available.
toxicity - single	
exposure	
Methyl Ethyl Ketone(78-	93-3)
Aspiration toxicity	Product: May be harmful if swallowed and enters airways.
Carcinogenicity	Remarks: This information is not available, Carcinogenicity-Assement: Not classified as a human
	carcinogen.
Further information	Product Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea
	and vomiting.,
Germ cell mutagenicity	Genotoxicity in vitro: Test Type: Ames test, Metabolic activation: with and without metabolic
	activation, Method OECD Test Guideline 471
LC50 (mouse)	320 mg/l (4 h exposure)
inhalation	
LC50 (rat) Oral	3737 mg/kg
LD50 (rabbit) dermal	6,480 mg/kg
Reproductive toxicity	Effects on fetal development, Species: rat female, Application Route: Inhalation, Dose: 400,
	1000, 3000 ppm,
Respiratory or skin	Test Type: Buehler Test, Species guinea pig, Method OECD Test Guideline 406, Result: Did not
sensitsation	cause sensitization on laboratory animals.
Serious eye damage/	Remarks: Severe skin irritation, Species rabbit, Exposure time 24 h, Result: Irritation to eyes
eye irritation	
Skin	Remarks: Moderate skin irritation, Species rabbit, Exposure time 24 h, Result: Mild skin irritation
corrosion/irritation	
STOT - repeated	Product: No data available, Components: No data available.
exposure	
STOT - single exposure	Product: Target Organs: Central Nervous system, Components: Exposure routes: Inhalation,
	Product: Target Organs: Central Nervous system
n-Butyl Acetate(123-86-	
Aspiration hazard	No data available.
Carcinogenicity	No data available.
Inhalation	No data available.
LD-50 Dermal -	> 16ml/kg
(Rabbit)	
LD-50 Oral - (Rat)	14,130 mg/kg
Mutagenicity	In vitro: No data available. In vivo: No data available.
Other adverse effects:	No data available.
Repeated dose toxicity	No data available.
Reproductive toxicity	No data available.
Respiratory or skin	Skin Sensitization:, (Guinea Pig) - non-sensitizing.
sensitization	
Serious eye	(Rabbit, 24 h): none
damage/eye irritation	
Skin	(Rabbit, 24 h): none
corrosion/irritation	
Specific target organ	No data available.
toxicity - repeated	
exposure	
Specific target organ	Narcotic effect.
toxicity - single	
exposure	
P.M. Acetate(108-65-6)	
Aspiration hazard	No data available.
Carcinogenicity	No data available.

LCEO Imbalation Dat	\ 424F nnm (Dat C h)
LC50 - Inhalation Rat	>4345 ppm (Rat, 6 h)
LD50 - Dermal - Rabbit	
LD50 - Oral - Rat	6,190 mg/kg
Mutagenicity	In vitro: No data available. In vivo: No data available.
Other adverse effects	No data available.
Repeated dose toxicity	No data available.
Reproductive toxicity.	No data available.
Respiratory or skin	Skin Sensitization:, (Guinea Pig) - non-sensitizing
sensitization	
Serious eye	(Rabbit): very slight
damage/eye irritation	
Skin	Specified substance(s) 2-methoxy-1-methylethyl acetate (Rabbit, 4 h): none (Rabbit, 24 h):
corrosion/irritation	none.
Specific target organ	No data available.
toxicity - repeated	
exposure	
Specific target organ	No data available.
toxicity - single	
exposure	
Styrene(100-42-5)	
Irritation / corrosion -	Species: Rabbit; Result: non-irritant; Method: BASF - Test
Eye	
Irritation / corrosion -	Species: Guinea pig; Result: non-sensitization; Method: OECD Guideline 406.
Sensitization	
Irritation / corrosion -	Species: Rabbit; Result: non-irritant; Method: BASF - Test
Skin	
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 Ti02.
Dermal ALD (rabbit)	>10000 mg/m3
Eye irritation	slight irritation
Inhalation 4 h ALC	>6.82 mg/l
ORAL ALD (rat)	>2400 mg/kg
ORAL ALD (rat) Sensitsation	
` `	>2400 mg/kg Did not cause sensitsation on laboratory animals. slight irritation

# 12. ECOLOGICAL INFORMATION

Acetone(67-64-1)	
Bioacculative potential	Parition coefficient: n-octanol/water: log Pow: -0.24
EC50 (Daphnia magna	7,630 mg/l (Exposure time 48 h); Test substance: Acetone
(Water flea))	
LC50 (Oncorhynchus	6,100 mg/l (Exposure time: 48 h)
mykiss (rainbow	
trout))	
Mobility in soil	No data available.
Other adverse effects	No data Available. Regulation: 40 CFR Protection of Environment; Part 82 Protection of
	Stratospheric Ozone - CAA Section 602 Class I Substances., Additional ecological information:
	No data available.
Persistence and	Biodegrability: Remarks: No data available
degrability	
Toxicity to algae	Remarks: No data available
Aluminum Hydroxide(21	<u>645-51-2)</u>
Bioaccumulative	Inert material.
potential	
EC50 - Daphnia -	>10,000 mg/l, Daphnia magna ( Water flea) (OECD Test Guideline 202)
Toxicity to daphnia and	
other aquatic	
invertebrates	
EC50 - Fish - Toxicity	>10,000 mg/l, Fish
ro fish	
Mobility in soil	Inert material.
NOEC - Toxicity to	>0.004 mg/l, 72 h, Pseudokirchneriella subcapitata (algae) - (OECD Test Guideline 201)
algae	
Other adverse effects	None known.

Persistence and	Non-degradable
degradability Amorphous Silica(7631-8	86-0)
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	The product is chemically and biologically inert. By the insolubility in water there is a separation
degrability	at every filtration and sedimentation process.
Carbon Black(1333-86-4 Behavior in water	Activated sludge, EC0 (3 h) > 800 mg/L. DEV L3 (TTC test)
treatment plants	
Bioaccumulation Potential	Potential bioaccumulation is not expected because of the physicochemical properties of the substance
EC50 (Scenedesmus subspicatus)	> 10,000 mg/L, OECD (Guideline 201)
EC50 Daphnia magna (waterflea)	>5600 mg/l (24 h) OECD (Guideline 202)
Environmental fate	Carbon black is an inert solid, stable and insoluble in water or organic solvents. Its vapour pressure is negligible. Based on these properties it is expected that carbon black will not occur in air or water in relevant amounts. Also potential for distribution via water or air can be dismissed. The deposition in soil or sediments is therefore the most relevant compartment of fate in the environment.
LC50 Brachydanio reio (zebrafish)	>1000 mg/l (96 h) OECD (Guideline 203)
NOEC 50	> 10,000 mg/L, OECD (Guideline 201)
(Scenedesmus	7 10/000 mg/ 2/ 0200 (Odidolino 201)
`subspicatus)	
Dibutyltin Dilaurate(77-5	
Aquatic toxicity	No data is available on the product itself.
Bioaccumulation EC50 - Daphnia	No data is available on the product itself.
LC50 - Daprilla	2.28 mg/l, Species : Daphnia magna. 2 mg/l, Species : Fish.
Mobility	No data available.
Persistence and	Biodegradability: No data is available on the product itself.
degradability Toxicity to other	No data available.
organisms	
Dimethyl Ether(115-10-6	
Bioaccumulative potential	No data available.
EC10 Pseudomonas putida - Toxicity to bacteria	1,600 mg/l - 30 min, Pseudomonas putida
EC50 Daphnia magna -	>4.4 g/l - 48 h, Daphnia magna (Water flea)
Toxicity to daphnia and	
other aquatic	
invertebrates	> 4.1 c/l OC h Descilia vatioulata (
LC50 Poecilia reticulata - Toxicity to fish	> 4.1 g/l - 96 h, Poecilia reticulata (guppy)
Mobility in soil	No data available.
Other adverse effects	No data available.
Persistence and	Biodegradability aerobic - Exposure time 28 d Result: 5 % - Not readily biodegradable. (OECD
degradability Results of PBT and	Test Guideline 301D) PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
vPvB assessment	יום ויין או אט מספפססוויפווג ווטג מאמוומטופ מס בוופווווכמו סמופנץ מספפססווופווג ווטג ופעטוופט/ווטג כפוווטגופט.
Hexamethylene Diisocya	nate(822-06-0)
Bioaccumulative potential	No data available.
EC50 - Toxicity to	>77.4 mg/l - Desmodesmus subspicatus (Scenedesmus subspicatus) - (Directive 67/548/EEC,
algae static test	Annex V, C.3.)
EC50 - Toxicity to bacteria	842 mg/l - 3 h, Respiration inhibition - Sludge Treatment
ECO - Toxicity to	>89.1 mg/l - Daphnia magna (Water flea) - 48 h - (Directive 67/548/EEC, Annex V, C.2.)
daphnia and their	

aquatic invertebrates		
LC0 -Toxicity to fish	>= 82.8 mg/l - Danio rerio (zebra fish) Danio rerio (zebra fish)	
static test		
Mobility in soil	No data available.	
Other adverse effects	No data available.	
Persistence and	Biodegradability aerobic - Exposure time 28 d, Result: 42 % - Not readily biodegradable. (OECD	
degradability	Test Guideline 301F)	
Results of PBT and	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.	
vPvB assessment		
	ethylene Diisocyanate(28182-81-2)	
EC0 - (Water flea	> 100 mg/l (Water flea (Daphnia magna), 48 h)	
(Daphnia magna)	> 100 mg/1 (water nea (Dapinia magna), 40 m)	
	1 000 and 11 (Artistand aludas misma aparisma 2 h)	
EC50 - (Activated	> 1,000 mg/l, (Activated sludge microorganisms, 3 h)	
sludge		
microorganisms,		
EC50 - (Green algae	> 1,000 mg/l, (Green algae (Scenedesmus subspicatus), 72 h)	
(Scenedesmus		
subspicatus)		
LC0 - (Zebra fish	> 100 mg/l (Zebra fish (Brachydanio rerio), 96 h)	
(Brachydanio rerio)		
Isobutyl Alcohol(78-83-1	1)	
Chronic	No data available.	
Degradability /	Evaluation: Not readliy biodegradable (by OECD criteria).	
Persistence; Biological	, , , , , , , , , , , , , , , , , , , ,	
/ A biological		
Degradation		
EC50 - Aquatic Plants	>100 mg/l (72 h) The product has not been tested. The statement has been derived from	
2000 / iquatic i iunto	properties of the individual components.	
EC50 - Daphnia - Acute		
Leso Dapillia Acute	properties of the individual components.	
LC50 - Fish - Acute	>100 mg/l (96 h) The product has not been tested. The statement has been derived from	
LC50 - FISH - Acute		
NA:	properties of the individual components.	
Microorganisms	Toxicity to microorganisms: bacteria EC10 (17 h): >750 mg/l. The product has not been tested.	
	The statement has been derived from properties of the individual components.	
Methyl Amyl Ketone(110-43-0)		
Methyl Amyl Ketone(110 Aquatic invertebrates	No data available.	
Aquatic invertebrates	No data available.	
Aquatic invertebrates Bioaccumulative	No data available.	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish)	No data available.  No data available.  No data available.	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum	No data available.  No data available.	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum)	No data available.  No data available.  No data available.  98.2 mg/l, 72 h	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead	No data available.  No data available.  No data available.	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g , Chemical Oxygen Demand: 2,420	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and degradability	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g , Chemical Oxygen Demand: 2,420 mg/g, BOD/COD ratio No data available.	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and degradability  Results of PBT and	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g , Chemical Oxygen Demand: 2,420	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and degradability  Results of PBT and vPvB assessment	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g , Chemical Oxygen Demand: 2,420 mg/g, BOD/COD ratio No data available.  No data available.	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and degradability  Results of PBT and vPvB assessment Methyl Ethyl Ketone(78-	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g , Chemical Oxygen Demand: 2,420 mg/g, BOD/COD ratio No data available.  No data available.	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and degradability  Results of PBT and vPvB assessment  Methyl Ethyl Ketone(78- Bioaccumulative	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g , Chemical Oxygen Demand: 2,420 mg/g, BOD/COD ratio No data available.  No data available.	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and degradability  Results of PBT and vPvB assessment Methyl Ethyl Ketone(78- Bioaccumulative potential	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g , Chemical Oxygen Demand: 2,420 mg/g, BOD/COD ratio No data available.  No data available.  93-3)  Partition coefficient: n-octanol/water: log Pow: 2.49	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and degradability  Results of PBT and vPvB assessment Methyl Ethyl Ketone(78- Bioaccumulative potential EC50 (Algae)	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g , Chemical Oxygen Demand: 2,420 mg/g, BOD/COD ratio No data available.  No data available.  93-3)  Partition coefficient: n-octanol/water: log Pow: 2.49  2029 mg/l (48 h; Pseudokirchneriella subcapitata (Green Algee))	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and degradability  Results of PBT and vPvB assessment  Methyl Ethyl Ketone(78- Bioaccumulative potential EC50 (Algae) EC50 (Daphnia)	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g , Chemical Oxygen Demand: 2,420 mg/g, BOD/COD ratio No data available.  No data available.  93-3)  Partition coefficient: n-octanol/water: log Pow: 2.49  2029 mg/l (48 h; Pseudokirchneriella subcapitata (Green Algee)) 308 mg/l (48 h; Daphnia magna (Water flea))	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and degradability  Results of PBT and vPvB assessment Methyl Ethyl Ketone(78- Bioaccumulative potential EC50 (Algae) EC50 (Daphnia) LC50 (fish)	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l, (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g, Chemical Oxygen Demand: 2,420 mg/g, BOD/COD ratio No data available.  No data available.  93-3)  Partition coefficient: n-octanol/water: log Pow: 2.49  2029 mg/l (48 h; Pseudokirchneriella subcapitata (Green Algee)) 308 mg/l (48 h; Daphnia magna (Water flea)) 2993 mg/l (96 h; Pimephales promelas (Fathead minnow))	
Aquatic invertebrates Bioaccumulative potential Chronic Toxicity (Fish) ErC50 (Selenastrum capricornutum) LC50 (Fathead Minnow) Acute toxicity Mobility in soil Persistence and degradability  Results of PBT and vPvB assessment Methyl Ethyl Ketone(78- Bioaccumulative potential EC50 (Algae) EC50 (Daphnia) LC50 (fish) Mobility in soil	No data available.  No data available.  No data available.  98.2 mg/l, 72 h  131 mg/l , (96 h)  No data available.  69 % (28 d, Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)). Biological Oxygen Demand BOD-5: 1,770 mg/g BOD-20: 2,000 mg/g , Chemical Oxygen Demand: 2,420 mg/g, BOD/COD ratio No data available.  No data available.  93-3)  Partition coefficient: n-octanol/water: log Pow: 2.49  2029 mg/l (48 h; Pseudokirchneriella subcapitata (Green Algee)) 308 mg/l (48 h; Daphnia magna (Water flea)) 2993 mg/l (96 h; Pimephales promelas (Fathead minnow)) No data available	
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Aquatic invertebrates	
Mobility in soil	Known or predicted distribution to environmental compartments: No data available.
Other adverse effects	No data available.
Persistence and	83 % (28 d), Biological Oxygen Demand:BOD-5: 730 mg/g, Chemical Oxygen Demand:1,010
degradability	mg/g, BOD/COD ratio:72 %.
Results of PBT and	No data available.
vPvB assessment	
P.M. Acetate(108-65-6)	
Aquatic invertebrates	NOEC (daphnia, 21 d): >= 100 mg/l EC-50 (daphnia, 21 d): > 100 mg/l
Bioaccumulative	No data available.
potential	
Biological Oxygen	363 mg/g 1,050 mg/g
Demand	
Chemical Oxygen	No data available.
Demand	
Chronic Toxicity Fish	LC-50 (Oryzias latipes, 14 d): 63.5 mg/l NOEC (Oryzias latipes, 14 d): 47.5 mg/l
LC50 - Daphnoid -	408 mg/l (48 h)
Aquatic invertebrates	
LC50 - Fathead Minnow	161 mg/l (96 h)
- Toxicity to Fish	
Mobility in soil	No data available.
Other adverse effects	No data available.
Persistence and degradability	Biodegradation - 90 % (28 d, Ready Biodegradability: CO2 Evolution Test) Readily biodegradable
Results of PBT and	No data available.
vPvB assessment	
Toxicity to Aquatic	EC-50 (Selenastrum capricornutum, 96 h): > 1,000 mg/l NOEC (Selenastrum capricornutum, 96
Plants	h): $>= 1,000 \text{ mg/l}$
Styrene(100-42-5)	
Bioaccumulation	At present state of knowledge, no negative ecological effects are expected.
Chronic	No data available regarding toxicity to Daphnis.
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	>100 mg/l (96 h)
idus) Acute	
Microorganisms	Toxicity to microorganisms: The inhibition of the degradation activity sludge is not anticipated
	when introduced to biological treatment plants in appropriate low conceratrations.
Titanium Dioxide(13463-	
LC50 fish	Fathead minnow 96 h >1000 mg/l

#### 13. DISPOSAL CONSIDERATIONS

#### **WASTE TREATMENT METHODS**

**GENERAL INFORMATION:** No data available.

**DISPOSAL METHOD:** Dispose of waste and residues in accordance with Local, State, and Federal Regulations. Mix with compatible chemical which is less flammable and incenerate. Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind or weld or near this container.

# 14. TRANSPORT INFORMATION

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

**USDOT GROUND** 

DOT (DEPARTMENT OF TRANSPORTATION)
PROPER SHIPPING NAME (DOT): Aerosols

HAZARDS CLASS: 2.1 UN/NA NUMBER: UN1950 PACKING GROUP: Not Applicable

**EMERGENCY RESPONSE GUIDE (ERG):** 126

IATA (AIR)

**DOT (INTERNATIONAL AIR TRANSPORTATION ASSOCIATION)** 

PROPER SHIPPING NAME: Aerosols

HAZARDS CLASS: 2.1 UN/NA NUMBER: UN1950 **PACKING GROUP:** N/A

**EMERGENCY RESPONSE GUIDE (ERG): 126** 

IMDG (OCEAN)

PROPER SHIPPING NAME: Aerosols

HAZARDS CLASS: 2.1 UN/NA NUMBER: UN1950 PACKING GROUP: N/A

**EMERGENCY RESPONSE GUIDE (ERG): 126** 

**MARINE POLLUTANT:** No

SPECIAL PRECAUTIONS: P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking. 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#
n-Butyl Acetate	123-86-4
Methyl Ethyl Ketone	78-93-3
Isobutyl Alcohol	78-83-1
Carbon Black	1333-86-4

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

WILL A SECTION 204 ELLS KG.

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#	
Dimethyl Ether	115-10-6	
Acetone	67-64-1	
n-Butyl Acetate	123-86-4	
P.M. Acetate	108-65-6	
Titanium Dioxide	13463-67-7	

#### **CLEAN AIR ACT:**

This product contains:	Chemical CAS#
Styrene	100-42-5

#### **INTERNATIONAL REGULATIONS**

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

Flam. Liq. Cat. 2; H223 Eye Irrit. Cat. 2; H319 STOT SE Cat. 3; H336

#### **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 (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#
Dimethyl Ether	115-10-6
Acetone	67-64-1
Homopolymer of Hexamethylene Diisocyanate	28182-81-2
n-Butyl Acetate	123-86-4
Methyl Amyl Ketone	110-43-0
Methyl Ethyl Ketone	78-93-3
Hexamethylene Diisocyanate	822-06-0
Isobutyl Alcohol	78-83-1
Carbon Black	1333-86-4
Acetylacetone	123-54-6

Pennsylvania Right to Know

This product contains	Chemical CAS#
Dimethyl Ether	115-10-6
Acetone	67-64-1
Homopolymer of Hexamethylene Diisocyanate	28182-81-2
n-Butyl Acetate	123-86-4
P.M. Acetate	108-65-6
Titanium Dioxide	13463-67-7
Methyl Amyl Ketone	110-43-0
Amorphous Silica	7631-86-9
Methyl Ethyl Ketone	78-93-3
Aluminum Hydroxide	21645-51-2
Isobutyl Alcohol	78-83-1
Carbon Black	1333-86-4
Dibutyltin Dilaurate	77-58-7
Acetylacetone	123-54-6

**New Jersey Right to Know** 

New Jersey Right to Know	
This product contains	Chemical CAS#
Dimethyl Ether	115-10-6
Acetone	67-64-1
Homopolymer of Hexamethylene Diisocyanate	28182-81-2
n-Butyl Acetate	123-86-4
P.M. Acetate	108-65-6
Titanium Dioxide	13463-67-7
Methyl Amyl Ketone	110-43-0
Amorphous Silica	7631-86-9

Methyl Ethyl Ketone	78-93-3
Aluminum Hydroxide	21645-51-2
Hexamethylene Diisocyanate	822-06-0
Isobutyl Alcohol	78-83-1
Carbon Black	1333-86-4
Dibutyltin Dilaurate	77-58-7
Acetylacetone	123-54-6

# **16. OTHER INFORMATION**

# **Other Product Information**

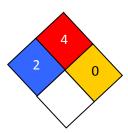
% Volatile by Volume: 91.46 % Volatile by Weight: 86.84 % Solids by volume: 8.54 % Solids by Weight: 13.16 % Exempt by Volume: 30.19 % Exempt by Weight: 29.71

**VOC CONTENT:** Excluding Exempt VOC: 658 Including Exempt VOC: 459

# **HMIS RATING**

Health :	2*
Flammability :	4
Reactivity:	0
Personal Protection :	Н

#### **NFPA CODES**



**MANUFACTURER DISCLAIMER:** The information contained in this Safety Data Sheet is considered to be true and accurate. Cardinal Industrial Finishes makes no warranties, expressed or implied, as to the accuracy and adequacy of this information. This data is offered solely for the user's consideration, investigation and verification.