

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME** : A-2000 SERIES LACQUER AEROSOL

**PRODUCT CODE** : A-2000 SERIES

**PRODUCT USE**: Industrial Touch Up Paint

**Supplier** : C.R. Laurence Co., Inc.

2503 E. Vernon Avenue Los Angeles, CA 90058

1-800-421-6144 1-866-836-8855

**Emergency telephone**: US/Canada: (800) 424-9300

number of the company Mexico: CHEMTREC Mexico 800-681-9531. Available 24 hours and 365 days per year

Product Information : US/Canada: (800) 247-3266

Telephone Number Mexico: Not Available

**Transportation Emergency**: US/Canada: (800) 424-9300

**Telephone Number** Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

### 2. HAZARDS IDENTIFICATION

#### **PICTOGRAMS**



**SIGNAL WORD: DANGER** 

#### **HAZARD STATEMENTS:**

H223 Flammable aerosol.

H315 Causes skin irritation

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

### 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.

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

P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER/doctor.

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
Acetone	25% - 30%	67-64-1
Propane Blend	25% - 30%	74-98-6
Isobutyl Acetate	10% - 15%	110-19-0
VM&P Naphtha	5% - 10%	64742-89-8
Titanium Dioxide	1% - 5%	13463-67-7
Isopropyl Alcohol	1% - 5%	67-63-0
Ethylene glycol mono butyl ether	1% - 5%	111-76-2
Methyl Ethyl Ketone	1% - 5%	78-93-3
Phenylethane	0.10% - 0.50%	100-41-4

### 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 advise 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 OSHA	OSHA TWA (Table Z-1)	1,000 ppm, 2,400 mg/m3			
USA NIOSH	NIOSH TWA	250 ppm, 590 mg/m3			
USA NIOSH	NIOSH STEL (Table Z-1)	1,000 ppm, 2,400 mg/m3			
USA ACGIH	ACGIH TWA TLV	250 ppm, 590 mg/m3			
USA ACGIH	ACGIH STEL TLV	500 ppm, 1187 mg/m3			
Benzene(71-43-2)		111,			
USA ACGIH	ACGIH TWA	0.5 ppm			
USA ACGIH	ACGIH STEL	2.5 ppm			
USA OSHA	OSHA TWA (Table Z-1-A)	1 ppm			
USA OSHA	OSHA CIEL (Table Z-1-A)	5 ppm			
USA OSHA	OSHA STEL	5 ppm			
USA OSHA	OSHA CARC PEL	1 ppm			
USA OSHA	OSHA CARC STEL	5 ppm			
Carbon Black(1333-86-4)					
USA ACGIH	ACGIH TLV (mg/m3)	3.0 mg/m3			
USA OSHA	OSHA PEL (mg/m3)	3.5 mg/m3			
Ethyl Alcohol(64-17-5)	<u> </u>	· -			
USA ACGIH	ACGIH TWA (TLV)	1,000 ppm			
USA OSHA	OSHA TWA (Table Z-1)	1,000 ppm, 1,900 mg/m3			
USA NIOSH	NIOSH TWA	1,000 ppm, 1,900 mg/m3			
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 TABLE Z-1 TWA (mg/m3)	50 ppm, 240 mg/m3			
USA OSHA	OSHA PO TWA (ppm)	25 ppm			
Isobutyl Acetate(110-19-0)					
USA ACGIH	ACGIH TWA TLV	150 ppm			
USA OSHA	OSHA PEL (TABLE Z-1)	150ppm, 700 mg/m3			
Isopropyl Alcohol(67-63-0)					
USA ACGIH	ACGIH TWA	200 ppm			
USA ACGIH	ACGIH STEL	400 ppm			
USA NIOSH	NIOSH IDLH	2,000 ppm			
USA OSHA	OSHA TWA	400 ppm, 980 mg/m3			
Meta-Xylene(108-38-3)					
USA ACGIH	ACGIH TWA (8 h)	100 ppm, 434 mg/m3			
USA ACGIH	ACGIH STEL TLV (15 m)	150 ppm, 651 mg/m3			
USA OSHA	OSHA TWA (8 h)	100 ppm, 435 mg/m3			
Methyl Ethyl Ketone(78-93-3)					
USA ACGIH	ACGIH TWA (ppm)	200 ppm			



USA ACGIH	ACGIH STEL (ppm)	300 ppm				
USA OSHA	OSHA PEL TWA (mg/m3)	410 mg/m3				
USA OSHA	OSHA PEL (STEL) (ppm)	100 ppm				
O-Xylene(95-47-6)						
USA ACGIH	ACGIH (TLV) TWA	100 ppm				
USA ACGIH	ACGIH (TLV) STEL	150 ppm				
USA OSHA	OSHA (OEL) TWA Table Z-1	100 ppm, 435 mg/m3				
USA NIOSH	NIOSH (REL) TWA	100 ppm, 435 mg/m3				
USA NIOSH	NIOSH (REL) ST	150 ppm, 655 mg/m3				
Para-Xylene(106-42-3)	· ·	· · · · · · · · · · · · ·				
USA ACGIH	ACGIH (TLV) TWA	100 ppm				
USA ACGIH	ACGIH (TLV) STEL	150 ppm				
USA NIOSH	NIOSH (REL) ST	150 ppm, 650 mg/m3				
USA NIOSH	NIOSH (REL) TWA	100 ppm, 435 mg/m3				
USA OSHA	OSHA (OEL) TWA Table Z-1	100 ppm, 435 mg/m3				
Phenylethane(100-41-4)						
USA ACGIH	ACGIH TWA	20 ppm				
USA ACGIH	ACGIH STEL	125 ppm				
USA NIOSH	NIOSH REL	100 ppm, 435 mg/m3				
USA NIOSH	NIOSH REL (ST)	125 ppm, 545 mg/m3				
USA OSHA	OSHA TWA (Table Z-1)	100 ppm, 435 mg/m3				
USA OSHA	OSHA STEL	125 ppm, 545 mg/m3				
Propane Blend(74-98-6)						
USA OSHA	OSHA PEL (TWA) mg/m3	1800 mg/m3				
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm				
ACGIH	ACGIH	N/E				
Titanium Dioxide(13463-67-7)						
PEL (Permissible Exposure Limit)	OSHA TWA	15 mg/m3				
TLV	ACGIH TWA	10 mg/m3				
Toluene(108-88-3)						
USA ACGIH	ACGIH TWA	20 ppm				
USA NIOSH	NIOSH REL TWA	100 ppm, 375 mg/m3				
USA NIOSH	NIOSH REL (ST)	150 ppm, 560 mg/m3				
USA OSHA	OSHA TWA (Table Z-2)	200 ppm				
USA OSHA	OSHA TWA (PO)	100 ppm, 375 ppm				
USA OSHA	OSHA STEL (PO)	150 ppm, 560 mg/m3				
VM&P Naphtha(64742-89-8)						
USA OSHA	OSHA TWA (Table PO)	400 ppm, 1,600 mg/m3				
USA OSHA	OSHA TWA (Table Z-1)	500 ppm, 2,000 mg/m3				
Xylene(1330-20-7)						
USA ACGIH	ACGIH TWA	100 ppm				
USA ACGIH	ACGIH STEL	150 ppm				
USA OSHA	OSHA TWA (Table Z-1)	100 PPM, 435 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	:	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	:	-44.0 deg F TO 334.0 deg F
Flash point	:	-154.0 deg F
Lower explosion limit	:	0.8
Upper explosion limit	:	12.8
Vapor pressure	:	185 mm Hg
Vapor density	:	Heavier than air
Relative density	:	No data available.
Density	:	6.3716
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)	
LD50 (rat) Oral	5,800 mg/kg; Symptoms: tremors
LC50 (rat) Inhalation	76 mg/l (4 h exposure)
LD50 Dermal	>7,426 mg/kg
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.
Serious eye damage/eye irritation	Species: rabbit, Result: Slightly irritating to eyes, Exposure time: 24 h, Classification: Irritating to eyes, Remarks: Eye irritation.
Respiratory or skin sensitisation	Test type: Maximization test, Species: guinea pig, Assessment: Does not cause skin sensitisation. Result: Did not cause sensitisation on laboratory animals.
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.
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.
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.
STOT - single exposure	Exposure routes: Inhalation (vapour); Assessment: May cause drowsiness or dizziness.



STOT- repeated	No data available.
exposure	No data available.
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.
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.
Benzene(71-43-2)	
LD50 Oral	> 2,000 mg/kg Species: rat Sex: female
LC50 Dermal LD50	44.5 mg/l Exposure time: 4 h Species: rat Sex: Not Specified Test atmosphere: vapor > 8,260 mg/kg Species: rabbit
Skin irritation	May cause skin irritation in susceptible persons.
Eye irritation	May cause irreversible eye damage.
Sensitization	Did not cause sensitization on laboratory animals.
Repeated dose toxicity	Species: rat, female Sex: female. Application Route: oral gavage Dose: 0, 25, 50, 100 mg/kg Exposure time: 103 wk Number of exposures: 5 d/wk NOEL: < 25 mg/kg Lowest observable effect level: 25 mg/kg Species: rat, male Sex: male Application Route: oral gavage Dose: 0, 50, 100, 200 mg/kg Exposure time: 103 wk Number of exposures: 5 d/wk NOEL: < 50 mg/kg Lowest observable effect level: 50 mg/kg Species: mouse Application Route: oral gavage Dose: 0, 25, 50,100 mg/kg Exposure time: 103 wk NOEL: < 25 mg/kg
Carcinogenicity	Species: rat Sex: female Dose: 0, 25, 50, 250 mg/kg Exposure time: 103 wks Number of exposures: daily, 5 days/week Test substance: yes Remarks: zymbal gland carcinomas, squamous cell papillomas Species: rat Sex: male Dose: 0, 50, 100, 200 mg/kg Exposure time: 103 wks Number of exposures: daily, 5 days/week Test substance: yes Remarks: zymbal gland carcinomas, squamous cell papillomas Species: mouse Sex: male and female Dose: 25, 50, 100 mg/kg Exposure time: 103 wks Number of exposures: daily, 5 days/week Test substance: yes Remarks: Clear evidence of multiple organ carcinogenicity.
Aspiration toxicity	May be fatal if swallowed and enters airways. Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.
CMR effects	Carcinogenicity: Human carcinogen. Mutagenicity: In vivo tests showed mutagenic effects Teratogenicity: Did not show teratogenic effects in animal experiments. Reproductive toxicity: Animal testing did not show any effects on fertility.
Further information	Chronic Health Hazard. Solvents may degrease the skin.
Carbon Black(1333-86-4	
LD50 (Rat) Carcinogenicity	>8000 mg/kg GHS- Not a hazardous substance or preparation according to the Global Harmonized System
Classification	(GHS).
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 (Group 2B).
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).
ACGIH	ACGIH The American Conference of Governmental Industrial Hygienists classifies carbon black as A4, Not Classifiable as a Human Carcinogen.
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.
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
STOT- repeated exposure	Therefore, no STOT, Repeated exposure classification is made.
Sensitization  Mutagenic Effects and	No animal data is available. No cases in humans have been reported.  In an experimental investigation, mutational changes in the hprt gene were reported in alveolar



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.
Reproductive and Teratogenic Effects	No experimental studies on effects of carbon black on fertility and reproduction have been located. However, based on toxic kinetic 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 fetus under in vivo conditions. Therefore, no adverse effects of carbon black to fertility/reproduction or to fetal development are expected. No effects have been reported in long-term animal studies.
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 - cont.	This study, however, indicated a link between carbon black and small opacities on chest films, 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).
Human Epidemiology – cont	Since this IARC evaluation of carbon black, Sorahan and Harrington 16) re-analyzed the UK study data using an alternative exposure hypothesis and found a positive association with 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 - cont.	Morfeld and McCunney 19) applied a Bayesian approach to unravel the role of uncontrolled 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.
Ethyl Alcohol(64-17-5)	
LD50 Oral - Rat	7,060 mg/kg , Remarks: Lungs, Thorax, or Respiration: Other changes.
LC50 Inhalation - Rat	20000 ppm, (10 h)
Dermal: Skin	No data available  Result: No skin irritation - 24 h (OECD Test Guideline 404)
corrosion/irritation Skin - Rabbit	result to skill irradion. 21 if (SESS 1650 Guideline 404)
Serious eye damage/eye irritation Eyes Rabbit	Result: Mild eye irritation - 24 h (OECD Test Guideline 405)
Respiratory or skin sensitization	No data available.
Germ cell mutagenicity	No data available.
Carcinogenicity - Mouse - Oral	Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors. Blood: Lymphomas including Hodgkin's disease. 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. NTP: No components 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 components of this product present at



	levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity	No data available. Reproductive toxicity - Human - female - Oral Effects on Newborn: Apgar score (human only). Effects on Newborn: Other neonatal measures or effects. Effects on Newborn: Drug dependence.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	No data available.
Additional Information	RTECS: KQ6300000 Central nervous system depression, narcosis, Damage to the heart., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Heart - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence
Ethylene glycol mono bu	
LC50 (rat) Oral	Acute toxicity estimate: 500 mg/kg; Method: Expert judgment.; Assessment: the component/mixture is moderately toxic after single ingestion.
LC50 (rat) inhalation	Acute inhalation toxicity: 500 ppm, Exposure time: 4 h; Assessment: the component/mixture is moderately toxic after short term inhalation.
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.
Skin	Remarks: Moderate skin irritation in susceptible persons., Species rabbit, Exposure time 24 h,
corrosion/irritation	Result: Mild skin irritation
Serious eye damage/ eye irritation	Species rabbit, Exposure time 24 h, Result: Irritating to eyes.
Respiratory or skin sensitation	Test Type: Maximization test, Species guinea pig, Result: Did not cause sensitisation on laboratory animals.
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: Intraperitonael, Result: negative., Germ cell mutagenicity Assessment: Tests on bacterial or mammalian did not show mutagenic effects.
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-Assessment: Not evidence of carcinogenicity in animal studies
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
STOT - single exposure	No data available.
STOT - repeated	No data available.
exposure Aspiration toxicity	Remarks: No data available.
Further information	Product Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.,
Repeated dose toxicity	Species: rat NOAEL: 30, Application Route: Inhalation Exposure time: 14 wk Number of exposures: 6 h/d, 5 d/wk.
Isobutyl Acetate(110-19	
LD50 (Rat) Oral	3,200 - 6,400 mg/m3
LD50 (Rabbit) Dermal	> 17,400 mg/kg
LC50 Inhalation	No data available
Repeated dose toxicity Skin	NOEL (Rat, Oral Study, 92 d): 316 mg/kg Read-across from a similar material.  (Rabbit, 4 h): none
corrosion/irritation Serious eye	(Rabbit): none
damage/eye irritation Respiratory or skin	Skin Sensitization:, (Guinea Pig) - non-sensitizing.
sensitization Mutagenicity	In vitro Product: Salmonella typhimurium assay (Ames test), : negative +/- activation In vivo
Carcinogenicity	Product: Chromosomal aberration, oral: gavage (Mouse): Read-across from a similar material.  No data available.
Reproductive toxicity	No data available.
reproductive toxicity	I NO GOLG GYANIADIE.



Specific target organ	No data available.
toxicity - single	
exposure	
Specific target organ	No data available.
toxicity - repeated	
exposure	
Aspiration hazard	No data available.
Other adverse effects	No data available.
Isopropyl Alcohol(67-63	-0)
LD50 (Rat)	4,396 mg/kg; Acute oral toxicity: Based on acute toxicity values, not classified. Ingestion may
	cause gastrointestinal effects (pain, nausea, vomiting, and hemorrhage), hypothermia, cardiac
	effects (low blood pressure, shock and cardiac arrest), liver changes, kidney damage, and CNS
	effects (headache, dizziness, sleepiness, coma and death).
LC50 (Rat)	46.6 mg/l; Exposure time: 8 h, Acute inhalation toxicity: Based on acute toxicity values, not
	classified. High vapor concentrations may cause irritation of the eyes, nose, and/or throat,
	changes to the liver, lung, spleen, and brain, and central nervous system depression (ataxia,
	dizziness, narcosis, and muscle relaxation, with respiratory arrest and death in cases of severe
	over exposure).
LD50 (Rabbit)	12,870 mg/kg
Skin	Based on skin irritation values, not classified. Liquid may cause slight skin irritation. Exposure of
corrosion/irritation	liquid to the underdeveloped skin of premature infants may cause severe irritation.
Serious eye	Classified Causes serious eye irritation.
damage/eye irritation	
Respiratory or skin	Not classified No adverse effect observed.
sensitization	
Carcinogenicity	Not classified.
Germ cell mutagenicity	Not classified No adverse effect observed.
Reproductive toxicity	Effects on fertility / Effects on or via lactation: Not classified.
Effects on	Not classified.
Development	
Target Organ Systemic	Routes of exposure: Ingestion, Inhalation Target Organs: Central nervous system Classified,
Toxicant - Single	May cause drowsiness or dizziness.
exposure	
Target Organ Systemic	Based on repeated exposure toxicity values, not classified.
Toxicant - Repeated	
exposure	
Aspiration hazard	Based on physic-chemical values or lack of human evidence, not classified.
Meta-Xylene(108-38-3)	
LD50 Oral (Rat, Male)	6,602 mg/kg (OECD Test Guideline 401)
LC50 Inhalation (Rat,	6700 ppm, 4 h - (Directive 67/548/EEC, Annex V, B.2.)
Male)	
LD50 Dermal (Rabbit,	12,126 mg/kg Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table
Male)	3.1/3.2). No data available.
Skin	Skin - Rabbit Result: Skin irritation - 24 h
corrosion/irritation	
Serious eye	Eyes - Rabbit Result: Severe eye irritation - 24 h
damage/eye irritation	
Respiratory or skin	Mouse Result: Does not cause skin sensitization. (OECD Test Guideline 429)
sensitization	
Germ cell mutagenicity	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 (m-Xylene) 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 presents at levels greater than or equal to 0.1% is identified as a
Daniel III III	carcinogen or potential carcinogen by OSHA.
Reproductive toxicity	Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.
Specific target organ	Inhalation - May cause respiratory irritation.
toxicity - single	
exposure	No data sucilable
Specific target organ	No data available.
toxicity - repeated	
exposure	May be fetal if availaged and enters simply
Aspiration hazard	May be fatal if swallowed and enters airways.
Additional Information	RTECS: ZE2275000 Liver injury may occur., Kidney injury may occur., Blood disorders, burning
	sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting,
	narcosis, Lung irritation, chest pain, pulmonary edema, Central nervous system depression, Dermatitis, Gastrointestinal disturbance.
i	Dermanus, Gastronitestinai disturbance.
Methyl Ethyl Ketone(78-	93-3)



LC50 (rat) Oral	3737 mg/kg
LC50 (mouse)	320 mg/l (4 h exposure)
inhalation	, ,
LD50 (rabbit) dermal	6,480 mg/kg
Skin corrosion/irritation	Remarks: Moderate skin irritation, Species rabbit, Exposure time 24 h, Result: Mild skin irritation
Serious eye damage/ eye irritation	Remarks: Severe skin irritation, Species rabbit, Exposure time 24 h, Result: Irritation to eyes
Respiratory or skin sensitsation	Test Type: Buehler Test, Species guinea pig, Method OECD Test Guideline 406, Result: Did not cause sensitization on laboratory animals.
Germ cell mutagenicity	Genotoxicity in vitro: Test Type: Ames test, Metabolic activation: with and without metabolic activation, Method OECD Test Guideline 471
Carcinogenicity	Remarks: This information is not available, Carcinogenicity-Assessment: Not classified as a human carcinogen.
Reproductive toxicity	Effects on fetal development, Species: rat female, Application Route: Inhalation, Dose: 400, 1000, 3000 ppm,
STOT - single exposure	Product: Target Organs: Central Nervous system, Components: Exposure routes: Inhalation, Product: Target Organs: Central Nervous system
STOT - repeated	Product: No data available, Components: No data available.
exposure Aspiration toxicity	Product: May be harmful if cuallowed and enters airways
Further information	Product: May be harmful if swallowed and enters airways.  Product Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea
Turther information	and vomiting.,
O-Xylene(95-47-6)	
Oral - Acute Toxicity	No data available.
LC50 - Inhalation - Rat - Male	>18,800 mg/m3, Rat - male - 6 h
Dermal -	No data available.
LD50 - Intrapertitional - Mouse -	1,364 mg/kg, Mouse
Skin corrosion/irritation	Skin - Rabbit Result: Irritating to skin 24 h
Serious eye damage/eye irritation	No data available.
Respiratory or skin sensitization	Mouse Result: Does not cause skin sensitization. (OECD Test Guideline 429)
Germ cell mutagenicity	Ames test Salmonella typhimurium Result: negative
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 (o-Xylene) 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.
Reproductive toxicity	No data available.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	May be fatal if swallowed and enters airways.
Additional Information	RTECS: ZE2450000 narcosis, Lung irritation, chest pain, pulmonary edema, Central nervous system depression, Dermatitis, Gastrointestinal disturbance, Liver injury may occur., Kidney injury may occur., Blood disorders Nerves
Para-Xylene(106-42-3)	
LD50 - Oral - Rat - Acute toxicity	5,000 mg/m3, Oral - Rat
LD50 - Oral - Rat -Male	3,253 mg/kg, Oral - Rat - Male
LC50 - Inhalation - Rat	4,550 ppm, Rat - 4 h
Skin corrosion/irritation	Skin - Rabbit Result: Moderate skin irritation - 4 h
Serious eye	No data available.
damage/eye irritation Respiratory or skin	No data available.
sensitization	
Germ cell mutagenicity	No data available.
Carcinogenicity	IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (p-Xylene) 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 carsinogen or notential carsinogen by OSHA
Poproductive toxicity	greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.  No data available. May cause reproductive disorders.
Reproductive toxicity Specific target organ	No data available. May cause reproductive disorders.
toxicity - single	NO data available.
exposure	
Specific target organ	No data available.
toxicity - repeated	
exposure	
Aspiration hazard	No data available.
Additional Information	RTECS: ZE2625000 narcosis, Lung irritation, chest pain, pulmonary edema, Central nervous
	system depression, Gastrointestinal disturbance, Liver injury may occur., Kidney injury may
	occur., Blood disorders Stomach - Irregularities - Based on Human Evidence Stomach -
	Irregularities - Based on Human Evidence.
Phenylethane(100-41-4)	
LC50 (Mouse, Male)	10 mg/l Assessment: The component/mixture is moderately toxic after short term inhalation.
LD50 (rabbit)	15,433 mg/kg Species: rabbit Result: Mild skin irritation
Skin	Species: raddit Result: Mild skin irritation
corrosion/irritation Serious eye	Species: rabbit Result: Mild eye irritation Remarks: No data available
damage/eye irritation	Species. Tabbit Result. Mild eye irritation Remarks. No data available
Respiratory or skin	Remarks: No data available
sensitization	Transaction and distribute
Germ cell mutagenicity	Genotoxicity in vitro, Test Type: Chromosome aberration test in vitro Test species: Chinese
	hamster ovary (CHO) Metabolic activation: with and without metabolic activation Method: OECD
	Test Guideline 473 Result: negative GLP: no : Test Type: Mammalian cell gene mutation assay
	Test species: mouse lymphoma cells Metabolic activation: with and without metabolic activation
	Method: OECD Test Guideline 476 Result: negative GLP: yes Genotoxicity in vivo: Test Type:
	In vivo micronucleus test species: mouse (male) Application Route: Oral Method: OECD Test
	Guideline 474 Result: negative GLP: yes Test Type: DNA damage and/or repair Test species:
	mouse (male and female)Application Route: Inhalation Method: OECD Test Guideline 486
	Result: negative GLP: yes Germ cell mutagenicity Assessment : In vivo tests did not show
Carcinogenicity	mutagenic effects Species: mouse, (male and female) Application Route: Inhalation Exposure time: 103 wk
Carcinogenicity	Activity duration: 6 h Dose: 0, 75, 250, 750 ppm Frequency of Treatment: 5 days/week NOAEL:
	250 ppm Method: OECD Test Guideline 453 Result: evidence of carcinogenic activity Symptoms:
	increased incidences of alveolar/bronchiolar neoplasms, increase incidence of hepatocellular
	carcinomas GLP: yes Carcinogenicity - Assessment : Carcinogenicity classification not possible
	from current data.
Reproductive toxicity	Effects on fertility: Test Type: One generation study Species: rat, male and female Application
	Route: Inhalation Dose: 0, 100, 500 and 1000 ppm Duration of Single Treatment: 6 h General
	Toxicity - Parent: NOAEC: 1,000 ppm General Toxicity F1: NOAEC: 100 ppm Symptoms:
	Reduced fetal weight. Reduced offspring weight gain. Method: OECD Test Guideline 415 Result:
	No reproductive effects. GLP: yes Effects on fetal development : Species: rat Application Route:
	Inhalation Dose: 0, 100, 500, 1000, 2000 ppm Duration of Single Treatment: 15 d General
	Toxicity Maternal: NOAEC: 500 ppm Teratogenicity: NOAEC: 2,000 ppm Developmental Toxicity:
	NOAEC: 500 ppm Symptoms: Reduced body weight Method: OECD Test Guideline 414 Result: Developmental toxicity occurred at maternal toxicity dose levels GLP: No data available
	Reproductive toxicity - Assessment : No toxicity to reproduction Did not show teratogenic effects
	in animal experiments.
STOT - single exposure	No data available.
STOT - repeated	Target Organs: Auditory system Assessment: May cause damage to organs through prolonged
exposure	or repeated exposure., The substance or mixture is classified as specific target organ toxicant,
·	repeated exposure, category 2.
Repeated dose toxicity	Species: rat, male and female NOAEL: 75 mg/kg Application Route: Oral Exposure time: 28 d
·	Dose: 75, 250 and 750 mg/kg bw/day Method: OECD Test Guideline 407 GLP: yes Symptoms:
	Increased kidney and liver weights
Aspiration toxicity	May be fatal if swallowed and enters airways.
Propane Blend(74-98-6)	
LC50 (RAT) Inhalation	1443 mg/l (GAS) (15 minutes)
Ingestion	N/A
Skin	N/A
Eye	Serious Eye Damage/Irritation: No end point data for material. , May cause mild, short-lasting
Concitization	discomfort to eyes.  No end point data for material. Not expected to be a respiratory sensitizer.
Sensitization Aspiration	
Aspiration	No end point data for material. Not expected to be an aspiration hazard. Based on physic-chemical properties of the material.
Germ Cell Mutagenicity	Data available. Not expected to be a germ cell mutagen. Based on test data for structurally
Germ Cen mutagementy	similar materials. Test(s) equivalent or similar to OECD Guideline 471
Carcinogenicity	No end point data for material. Not expected to cause cancer.
Reproductive Toxicity	Data available. Not expected to be a reproductive toxicant. Based on test data for structurally
Reproductive Toxicity	Data drainable. Not expected to be a reproductive toxicality based on test data for structurally



	similar materials. Test(s) equivalent or similar to OECD Guideline 422
Lactation	similar materials. Test(s) equivalent or similar to OECD Guideline 422  No end point data for material. Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT) Single	No end point data for material. Not expected to cause organ damage from a single exposure.
Exposure:	
Specific Target Organ Toxicity (STOT)	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 422
Repeated Exposure	May across and an across and across discorded (a.g., across is involving a large of according tion
Other Information	May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Very high exposure (confined spaces / abuse) to light hydrocarbons may result in abnormal heart rhythm (arrhythmias). Concurrent high stress levels and/or co-exposure to high levels of hydrocarbons (above occupational exposure limits), and to heart-stimulating substances like epinephrine, nasal decongestants, asthma drugs, or cardiovascular drugs may initiate arrhythmias. Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, in coordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increase
Titanium Dioxide(13463-	
ORAL ALD (rat)	>2400 mg/kg
Dermal ALD (rabbit)	>10000 mg/m3
Inhalation 4 h ALC Skin irritation	>6.82 mg/l slight irritation
Eye irritation	slight irritation
Sensitsation	Did not cause sensitsation on laboratory animals.
Carcinogenicity	In lifetime inhalation studies rats were exposed for 2 years to respectively 10, 50, 250 mg/m3 of
	respirable Ti02.
Toluene(108-88-3)	
LD50 (rat, male)	> 5,580 mg/kg
LC50 (rat, male and female)	28.1 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403
LD50 (rabbit)	> 5,000 mg/kg
Skin corrosion/irritation	Species: rabbit Exposure time: 4 h Result: Irritating to skin.
Serious eye	Species: rabbit Result: Irritating to eyes. Method: OECD Test Guideline 405
damage/eye irritation	
Respiratory or skin sensitization	Test Type: Maximization Test (GPMT) Species: guinea pig Result: Did not cause sensitization on laboratory animals. GLP: yes
Germ cell mutagenicity	Genotoxicity in vitro: Test Type: Mammalian cell gene mutation assay Test species: Mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative: Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative Genotoxicity in vivo: Test Type: Chromosome aberration assay in vivo Test species: rat Cell type: Bone marrow Application Route: Intraperitonael Exposure time: 1 or 5 d Dose: 0, 0.025, 0.082, 0.247 ml/kg Result: negative Test Type: Dominant lethal assay Test species: mouse (male) Application Route: inhalation (vapour) Exposure time: 6 h/d, 5 d/wk for 8 wks Dose: 0, 100, 400 ppm Method: OECD Test Guideline 478 Result: negative Germ cell mutagenicity Assessment: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Carcinogenicity	Species: rat, (male and female) Application Route: inhalation (vapour) Exposure time: 103 wks Dose: 0, 600, 1200 ppm Frequency of Treatment: 6.5 h/d, 5 d/wk NOAEL: No observed adverse effect level: 1,200 ppm Method: OECD Test Guideline 453 Result: did not display carcinogenic properties Symptoms: Erosion of nasal epithelium Species: rat, (male and female) Application Route: inhalation (vapour) Exposure time: 103 wks Dose: 0, 600, 1200 ppm Frequency of Treatment: 6.5 h/d, 5 d/wk NOAEL: No observed adverse effect level: 1,200 ppm Method: OECD Test Guideline 453 Result: did not display carcinogenic properties Symptoms: Erosion of nasal epithelium Species: rat, (male and female) Application Route: inhalation (vapour) Exposure time: 103 wks Dose: 0, 600, 1200 ppm Frequency of Treatment: 6.5 h/d, 5 d/wk NOAEL: No observed adverse effect level: 1,200 ppm Method: OECD Test Guideline 453 Result: did not display carcinogenic properties Symptoms: Erosion of nasal epithelium, GLP: yes, Carcinogen
Reproductive toxicity  Reproductive toxicity	Effects on fertility: Test Type: Two-generation study Species: rat, male and female Application Route: Inhalation Dose: 0, 100, 500, 2000 ppm Frequency of Treatment: 7 days/week General Toxicity - Parent: NOAEC: 500 ppm General Toxicity F1: NOAEC: 500 ppm Fertility: NOAEC: 2,000 ppm Symptoms: Reduced maternal body weight gain. Reduced offspring weight gain. Method: OECD Test Guideline 416 Result: Animal testing did not show any effects on fertility. GLP: yes Test Type: Fertility Species: rat, male and female Application Route: inhalation (vapour) Dose: 0, 600, 1200 ppm Frequency of Treatment: 7 days/week General Toxicity - Parent: NOAEC: 600 ppm Symptoms: Decreased sperm count Result: Animal testing did not show any effects on fertility.  Effects on fetal development: Species: rat Application Route: inhalation (vapour) Dose: 0, 250,



(cont.)	750, 1500, 3000 ppm Duration of Single Treatment: 10 d Frequency of Treatment: 6 hr/day General Toxicity Maternal: NOAEC: 750 ppm Developmental Toxicity: NOAEC: 750 ppm Symptoms: Maternal toxicity, Reduced body weight, Skeletal malformations. GLP: yes Reproductive toxicity - Assessment: Some evidence of adverse effects on sexual function and
STOT - single exposure	fertility, and/or on development, based on animal experiments.  Exposure routes: Target Organs: Assessment: Remarks: Inhalation Central nervous system May cause drowsiness or dizziness. The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.
STOT - repeated	Inhalation Auditory system, Eyes May cause damage to organs through prolonged or repeated
exposure	exposure., The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.
Repeated dose toxicity	Species: mouse, male and female NOAEL: 625 mg/kg LOAEL: 1,250 mg/kg Application Route: Oral Exposure time: 13 wks Number of exposures: 5 d/wk Dose: 312, 625, 1250, 2500, 5000 Group: yes GLP: yes Symptoms: death, Increased liver weight, ataxia, hyperactivity, hypothermia Species: rat, male and female NOAEL: 300 Application Route: inhalation (vapour) Exposure time: 6, 12, or 18 months Number of exposures: 6 h/d, 5 d/wk Dose: 0, 30, 100, 300 ppm Method: OECD Test Guideline 453 Repeated dose toxicity - Assessment: Causes skin irritation.
Aspiration toxicity	Aspiration Toxicity - Category 1
Further information	Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.
VM&P Naphtha(64742-8	
LD50 Oral (rat, male and female)	> 5,000 mg/kg Method: OECD Test Guideline 401 GLP: yes
LC50 Inhalation (rat, male and female)	7.6 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 GLP: yes
LD50 Dermal (rabbit, male and female)	> 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes
Skin corrosion/irritation	Species: rabbit Exposure time: 4 h Classification: Irritating to skin Result: Irritating to skin GLP: yes
Serious eye	Species: rabbit Result: Not irritating to eyes Exposure time: 1 - 2 s Classification: Not irritating
damage/eye irritation	to eyes GLP: yes Remarks: No eye irritation
Respiratory or skin sensitization	Test Type: Buehler Test Species: guinea pig Assessment: Does not cause skin sensitization. Result: Did not cause sensitization on laboratory animals. GLP: yes Remarks: not sensitizing.
Germ cell mutagenicity	Genotoxicity in vitro: Test Type: Ames test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: No data available: Test Type: Mammalian cell gene mutation assay Test species: Mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative GLP: no Genotoxicity in vivo: Test Type: In vivo micronucleus test species: rat (male and female) Application Route: Inhalation Exposure time: 6 hours/day Dose: 0, 2000, 10000, 20000 mg/m3 Result: negative GLP: yes Germ cell mutagenicity Assessment: Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.
Carcinogenicity	Species: mouse, (male) Application Route: Dermal Exposure time: 102 wk Dose: 0.05 ml neat Method: OECD Test Guideline 453 Result: did not display carcinogenic properties GLP: No data available Remarks: Category 1B
Reproductive toxicity	Effects on fertility: Test Type: Two-generation study Species: rat, male and female Application Route: vapour Dose: 0, 5000, 10000, 20000 mg/m³ Duration of Single Treatment: 6 h Frequency of Treatment: 7 days/week General Toxicity - Parent: NOAEC: > 20,000 mg/m³ General Toxicity F1: NOAEC: > 20,000 mg/m³ Symptoms: No adverse effects. Method: OECD Test Guideline 416 GLP: yes Effects on fetal development: Species: rat Application Route: Inhalation Dose: 2653, 7960, 23900 mg/m³ Duration of Single Treatment: 6 h Frequency of Treatment: 7 days/week General Toxicity Maternal: NOAEL: 23,900 mg/m³ Embryo-fetal toxicity.: NOAEL: 23,900 mg/m³ Symptoms: No malformations were observed. Method: OECD Test Guideline 414 GLP: yes
STOT - single exposure	Exposure routes: Inhalation Target Organs: Central nervous system Assessment: May cause drowsiness or dizziness.
STOT - repeated exposure	No data available.
Repeated dose toxicity	Species: rat, male NOAEL: < 500 mg/kg Application Route: Oral Exposure time: 4 wk Number of exposures: 5 d/wk Dose: 500 or 2000 mg/kg/day Symptoms: nephropathy 64742-89-8: Species: rat, male and female NOAEL: 1402 Application Route: inhalation (vapour) Test atmosphere: vapour Exposure time: 13 weeks Number of exposures: 6 hours/day, 5 days/week Material Safety Data Sheet VM&P Naphtha Version 1.2 Revision Date: 08/11/2014 MSDS Number: 100000002744 30 / 44 VM&P Naphtha Dose: 322, 1402, 9869 mg/m3 GLP: yes Target Organs: Kidney Symptoms: Nasal and ocular discharge.
Aspiration toxicity	Aspiration Toxicity - Category 1
Xylene(1330-20-7)	
Acute toxicity Product	Acute oral toxicity: Acute toxicity estimate: 3,523 mg/kg Method: Calculation method.
Acute inhalation	Acute toxicity estimate, 4631 ppm Exposure time, 4 h Test atmosphere: gas Method; Calculation



toxicity	method.
Acute dermal toxicity	Acute toxicity estimate : 1,100 mg/kg Method: Expert judgment.
LC50 (rat, male) Oral	3,523 mg/kg Method: EU Method B.1 (Acute Toxicity, Oral) Target Organs: Kidney, Bladder GLP: no
LC50 (rat, male) Inhalation	6700 ppm Exposure time: 4 h Method: Directive 67/548/EEC, Annex V, B.2. GLP: No data available Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation. Remarks: Acutely Toxic Category 4
Skin corrosion/irritation	Species: rabbit Exposure time: 24 h Result: Irritating to skin Remarks: Skin irritation, Category 2
Serious eye damage/eye irritation	Species: rabbit Result: Mild eye irritation
Respiratory or skin sensitization	Remarks: No data available
Germ cell mutagenicity	Test Type: Chromosome aberration test in virto. Test Species: Chinese hamster ovary (CHO) Metabollic Activation: With and without metabolic activation. Method Mutagenicity (in vitro mammalian cytogenetic test) Result: Negative. Test Type: Sistrer chromatic exchange assay in mammalian cells.
Germ cell mutagenicity Assessment	Animal testing did not show any mutagenic effects.
Carcinogenicity	Species: mouse, (male and female) Application Route: Oral Exposure time: 103 wk Dose: 0, 500 or 1000 mg/kg Frequency of Treatment: 5 days/week Method: Directive 67/548/EEC, Annex V, B.32. Result: did not display carcinogenic properties GLP: No data available, Carcinogenicity - Assessment: Animal testing did not show any carcinogenic effects.
Reproductive toxicity	Effects on fertility: Test Type: Two-generation study Species: rat, male and female Application Route: Inhalation Dose: 0, 25, 100 and 500 ppm Duration of Single Treatment: 6 h Frequency of Treatment: 7 days/week General Toxicity - Parent: NOAEC: > 500 ppm General Toxicity F1: NOAEC: > 500 ppm Early Embryonic Development: NOAEC: > 500 ppm Result: No reproductive effects. Effects on fetal development: Species: rat Application Route: Inhalation Dose: 0, 100, 500, 1000 or 2000 ppm Duration of Single Treatment: 14 d Frequency of Treatment: 6 hr/day General Toxicity Maternal: NOAEC: 500 ppm Teratogenicity: NOAEC: > 2,000 Developmental Toxicity: NOAEC: 100 ppm Result: No teratogenic effects., Developmental toxicity occurred at maternal toxicity dose levels Reproductive toxicity - Assessment: Animal testing did not show any effects on fertility. Damage to fetus not classifiable
STOT - single exposure	No data available.
STOT - repeated exposure	Target Organs: Liver, Kidney, Central nervous system Assessment: May cause damage to organs through prolonged or repeated exposure.
Repeated dose toxicity	Species: rat, male and female NOAEL: 250 mg/kg Application Route: Oral Exposure time: 103 wk Number of exposures: 5 d/wk Dose: 0, 250 or 500 mg/kg Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.
Aspiration Toxicity	May be fatal if swallowed and enters airways.

# 12. ECOLOGICAL INFORMATION

Acetone(67-64-1)	
LC50 (Oncorhynchus	6,100 mg/l (Exposure time: 48 h)
mykiss (rainbow	
trout))	
EC50 (Daphnia magna	7,630 mg/l (Exposure time 48 h); Test substance: Acetone
(Water flea))	
Toxicity to algae	Remarks: No data available
Persistence and	Biodegrability: Remarks: No data available
degrability	
Bioacculative potential	Parition coefficient: n-octanol/water: log Pow: -0.24
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.
Benzene(71-43-2)	
LC50	5.3 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) flow-through test
	substance: yes Method: OECD Test Guideline 203
EC50	10 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test substance: yes
	Method: OECD Test Guideline 202
ErC50	100 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Test
	substance: yes Method: OECD Test Guideline 201
Persistence and	Biodegradability: This material is expected to be readily biodegradable.
degradability	
Ecotoxicology	Acute aquatic toxicity Benzene : Toxic to aquatic life. Chronic aquatic toxicity Benzene : Harmful
Assessment	to aquatic life with long lasting effects.
Results of PBT	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This



assessment	substance is not considered to be very persistent nor very bioaccumulating (vPvB).
Additional ecological	Toxic to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional
information	handling or disposal. Toxic to aquatic life.
Carbon Black(1333-86-4	1)
LC50 Brachydanio reio	>1000 mg/l (96 h) OECD (Guideline 203)
(zebrafish)	
EC50 Daphnia magna	>5600 mg/l (24 h) OECD (Guideline 202)
(waterflea)	
NOEC 50	> 10,000 mg/L, OECD (Guideline 201)
(Scenedesmus	
subspicatus)	
EC50 (Scenedesmus	> 10,000 mg/L, OECD (Guideline 201)
subspicatus)	
Behavior in water	Activated sludge, EC0 (3 h) > 800 mg/L. DEV L3 (TTC test)
treatment plants	
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.
Bioaccumulation	Potential bioaccumulation is not expected because of the physicochemical properties of the
Potential	substance
Ethyl Alcohol(64-17-5)	
Toxicity	No data available.
Persistence and	No data available.
degradability	
Bioaccumulative	No data available.
potential	
Mobility in soil	No data available.
Results of PBT and	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
vPvB assessment	
Other adverse effects	No data available.
Ethylene glycol mono bu	
LC50 (fish)	1,474 mg/l Pimephales promelas (Fathead minnow))Exposure time: 96 h Test Type: static test,
2000 (11011)	Method: OECD Test Guideline 203 GLP: no
EC50 (Daphnia)	1,800 mg/l(48 h; Daphnia magna (Water flea)): Exposure time: 48 h Test Type: static test
2000 (2001)	
,	Method: OECD Test Guideline 202 GLP: no
EC50 (Algae)	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring:
EC50 (Algae)	Method: OECD Test Guideline 202 GLP: no 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 (Algae)  Persistence and	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no aerobic Inoculum: Activated sludge, domestic, adaption not specified, Result: Readily
EC50 (Algae)	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no aerobic Inoculum: Activated sludge, domestic, adaption not specified, Result: Readily biodegradable. Biodegradation: 90.4 % Exposure time: 28 d Method: OECD Test Guideline 301B
EC50 (Algae)  Persistence and degradability	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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
EC50 (Algae)  Persistence and degradability  Bioaccumulative	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no aerobic Inoculum: Activated sludge, domestic, adaption not specified, Result: Readily biodegradable. Biodegradation: 90.4 % Exposure time: 28 d Method: OECD Test Guideline 301B
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:  1-0) 22.4 mg/l, (96 h, (Fathead minnow))
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:  1-0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia))
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:  1-0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, (Alga))
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances: -0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, (Alga))
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:  1-0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, (Alga))
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:  1-0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, (Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances: -0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, (Alga))
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances: -0)  22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, (Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand  Chemical Oxygen	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:  1-0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, (Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand  Chemical Oxygen  Demand	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:  1-0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g  1,870 mg/g
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen Demand Chemical Oxygen Demand BOD/COD ratio	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, (Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g  1,870 mg/g
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand  Chemical Oxygen  Demand  BOD/COD ratio  Bioaccumulative	Method: OECD Test Guideline 202 GLP: no  911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:  1-0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g  1,870 mg/g
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand  Chemical Oxygen  Demand  BOD/COD ratio  Bioaccumulative potential Product	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances: -0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, (Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g  1,870 mg/g  0.52 % No data available.
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand  Chemical Oxygen  Demand  BOD/COD ratio  Bioaccumulative	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances: -0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, (Alga)) 95 mg/l, (72 h, (Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g  1,870 mg/g  0.52 % No data available.  Known or predicted distribution to environmental compartments isobutyl acetate 1.193 - 1.844
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand  Chemical Oxygen  Demand  BOD/COD ratio  Bioaccumulative potential Product  Mobility in soil	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA section 602 Class 1 Substances: -0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g  1,870 mg/g  0.52 % No data available.  Known or predicted distribution to environmental compartments isobutyl acetate 1.193 - 1.844 (QSAR model)
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand  Chemical Oxygen  Demand  BOD/COD ratio  Bioaccumulative potential Product  Mobility in soil  Results of PBT and	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA section 602 Class 1 Substances: -0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g  1,870 mg/g  0.52 % No data available.  Known or predicted distribution to environmental compartments isobutyl acetate 1.193 - 1.844 (QSAR model) Not fulfilling PBT (persistent/Bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent,
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand  Chemical Oxygen  Demand  BOD/COD ratio  Bioaccumulative potential Product  Mobility in soil  Results of PBT and vPvB assessment	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances: -0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g  1,870 mg/g  0.52 % No data available.  Known or predicted distribution to environmental compartments isobutyl acetate 1.193 - 1.844 (QSAR model) Not fulfilling PBT (persistent/Bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent, very Bioaccumulative) criteria
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand  Chemical Oxygen  Demand  BOD/COD ratio  Bioaccumulative potential Product  Mobility in soil  Results of PBT and vPvB assessment  Other adverse effects	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances: -0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g  1,870 mg/g  0.52 % No data available.  Known or predicted distribution to environmental compartments isobutyl acetate 1.193 - 1.844 (QSAR model) Not fulfilling PBT (persistent/Bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent, very Bioaccumulative) criteria No data available.
EC50 (Algae)  Persistence and degradability  Bioaccumulative potential  Mobility in soil  Other adverse effects  Product  Isobutyl Acetate(110-19  LC50 (Fish)  EC50 (Daphnia)  EC50 (Alga)  NOEC (Alga)  Persistence and degradability  Biological Oxygen  Demand  Chemical Oxygen  Demand  BOD/COD ratio  Bioaccumulative potential Product  Mobility in soil  Results of PBT and vPvB assessment	Method: OECD Test Guideline 202 GLP: no 911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no 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 Partition coefficient: n-octanol/water: log Pow: 0.83  No data available No data available Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances: -0) 22.4 mg/l, (96 h, (Fathead minnow)) 28.2 mg/l, (48 h, (Daphnia)) 370 mg/l, (72 h, Alga)) 95 mg/l, (72 h, Alga)) 81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable  BOD-5: 970 mg/g BOD-20: 1,300 mg/g  1,870 mg/g  0.52 % No data available.  Known or predicted distribution to environmental compartments isobutyl acetate 1.193 - 1.844 (QSAR model) Not fulfilling PBT (persistent/Bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent, very Bioaccumulative) criteria No data available.



Assessment	toxicity: Not classified, based on readily biodegradability and low acute toxicity.
Toxicity to fish	Acute toxicity to fish is very low.
Toxicity to daphnia and	Acute toxicity to freshwater and marine invertebrates is very low.
other aquatic	
invertebrates	
Toxicity to algae	Acute toxicity to aquatic plants very low.
Toxicity to bacteria	Low toxicity to sewage microbes.
Toxicity to fish	Chronic toxicity to fish is expected to be low.
(Chronic toxicity)	
Toxicity to daphnia and	Chronic toxicity expected to be low.
other aquatic	
invertebrates (Chronic	
toxicity)	
Persistence and	Biodegradability: 86 - 94 % Rapidly degradable. (After two weeks in a ready biodegradability
degradability	test)
Bioaccumulative	Bioaccumulation: Bioconcentration factor (BCF): 3.16 this material is not expected to
potential	bioaccumulate.
Mobility in soil	Distribution among environmental compartments: Stability in water initially partitioning mainly
	to water and air. Stability in soil Volatilization from water or soil surfaces is expected to be
	limited. Additional advice Environmental fate and pathways: No additional information available.
Results of PBT and	Not applicable.
vPvB assessment	
Other adverse effects	No additional information available.
Additional ecological	
information	
Meta-Xylene(108-38-3)	
LC50 (Fish)	11.23 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and	Remarks: No data available.
other aquatic	
invertebrates	
Toxicity to algae	Remarks: No data available
Persistence and	No data available.
degradability	
Bioaccumulative	Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.
potential	The second secon
Mobility in soil	No data available.
Results of PBT and	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
vPvB assessment	1 B1, VI VB dissessificité not d'unidable dis chemical surcey dissessificité not required, not conducted.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
other daverse effects	Harmful to aquatic life with long lasting effects.
Methyl Ethyl Ketone(78-	
LC50 (fish)	2993 mg/l (96 h; Pimephales promelas (Fathead minnow))
EC50 (Daphnia)	308 mg/l (48 h; Daphnia magna (Water flea))
EC50 (Algae)	2029 mg/l (48 h; Pseudokirchneriella subcapitata (Green Algae))
Persistence and	Biodegradability: Concentration: 2mg/l; Result: Readily biodegradation: 98%; Exposure 28 d;
degradability	biodegradability. Concentration. 2mg/i, Result. Reduily biodegradation. 90%, Exposure 28 d;
Bioaccumulative	Partition coefficient: n-octanol/water: log Pow: 2.49
	randion coemident, n-octanoj water. 10g Pow. 2.49
potential  Mobility in soil	No data available
	No data available
Other adverse effects Product	Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA
Product	
0 Vylano(05 47 6)	Section 602 Class 1 Substances:
O-Xylene(95-47-6)	16.10 mg/L 06 h Lonomic macrochimus (Phrosill)
LC50 - Lepomis	16.10 mg/l, 96 h, Lepomis macrochirus (Bluegill)
macrochirus - Toxicity Persistence and	Piodogradakiliky aprobio. Evanguro timo 20 d Dogytky 60 67 0/ Net and the hindary table
	Biodegradability aerobic - Exposure time 28 d Result: 69.67 % - Not readily biodegradable.
degradability	(OECD Test Guideline 301F) Remarks: The 10 day time window criterion is not fulfilled.
Bioaccumulative	No data available.
potential	No debe queilable
Mobility in soil	No data available.
Results of PBT and	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
vPvB assessment	
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
	Harmful to aquatic life with long lasting effects.
Para-Xylene(106-42-3)	
LC50 - Oncorhynchus	2.60 mg/l - 96 h, Oncorhynchus mykiss (rainbow trout)
mykiss - Toxicity to	
fish	
LC50 - Carassius	18.00 mg/l - 24 h, Carassius auratus (goldfish)



auratus - Toxicity to	
fish	
EC50 - Daphnia magna	35.50 - 63.10 mg/l - 48 h, Daphnia magna (Water flea)
- Toxicity to daphnia	
and other aquatic invertebrates	
EC50 -	3.20 - 4040 mg/l - 72 h, Pseudokirchneriella subcapitata (green algae)
Pseudokirchneriella	5.20 10 10 11g, 1 7 2 11, 1 5 5 5 5 11 5 11 5 11 5 11 5 11
subcapitata - Toxicity	
to algae	D. J. 1133 D. H. 07.0 W. D. 131 J. 1
Persistence and degradability	Biodegradability Result: 87.8 % - Readily biodegradable
Bioaccumulative	No data available.
potential	The data divalidates
Mobility in soil	No data available.
Results of PBT and	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
vPvB assessment	As an investment beautiful and the control of the c
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life.
Phenylethane(100-41-4)	Toxic to aquatic inc.
LC50 (Oncorhynchus	4.2 mg/l Exposure time: 96 h Test Type: semi-static test
mykiss (rainbow	,,
trout))	
EC50 (Daphnia magna (Water flea))	1.8 mg/l Exposure time: 48 h Test Type: static test
EC50	5.4 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: Static
(Pseudokirchneriella	GLP: yes
subcapitata)	
Toxicity to daphnia and	(Daphnia): 3.6 mg/l Toxicity to bacteria : GLP: Remarks: No data available Ecotoxicology
other aquatic invertebrates (Chronic	Assessment Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.
toxicity)	
Persistence and	Biodegradability: Inoculum: activated sludge Concentration: 22 mg/l Result: Readily
degradability	biodegradable. Biodegradation: 70 % Exposure time: 28 d GLP: yes
Bioaccumulative potential	Partition coefficient: noctanol/water : log Pow: 2.92
Mobility in soil	No data available.
Other adverse effects	Results of PBT and vPvB assessment : This substance is not considered to be persistent,
	bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very
	bioaccumulating (vPvB).
Propane Blend(74-98-6)	Not expected to demonstrate chronic toxicity to aquatic organisms
Ecotoxicity Mobility in soil	Not expected to demonstrate chronic toxicity to aquatic organisms.  Material Highly volatile, will partition rapidly to air. Not expected to partition to sediment and
1-lobility iii 30ii	wastewater solids.
Persistence and	Biodegradation: Material Expected to be inherently biodegradable
Degradability	
Atmospheric Oxidation	Material Expected to degrade at a moderate rate in air.
Bioaccumulative potential	Material Potential to bioaccumulate is low
Titanium Dioxide(13463-	67-7)
LC50 fish	Fathead minnow 96 h >1000 mg/l
Toluene(108-88-3)	
LC50 (Oncorhynchus	5.5 mg/l Exposure time: 96 h Test Type: flow-through test
mykiss (rainbow	
trout)) EC50 (Ceriodaphnia	3.78 mg/l Exposure time: 48 h Test Type: Renewal
dubia)	3.70 mg/1 Exposure time. 40 ii rest Type. Kenewai
EC50 (Chlorella	134 mg/l Exposure time: 3 h Test Type: static test
vulgaris (Fresh water	
algae))	
IC50 (Bacteria)	84 mg/l Exposure time: 24 h, Test Type: Static Ecotoxicology Assessment Acute aquatic toxicity
Persistence and	: Toxic to aquatic life. Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.  Biodegradability : Inoculum: Sewage Biodegradation: 100 % Remarks: Readily biodegradable
degradability	Sissegradabiley . Thocardin. Semage biodegradation, 100 % Nemarks, Nedality biodegradable
Bioaccumulative	Partition coefficient: noctanol/water : log Pow: 2.73
potential	-
Mobility in soil	No data available.
Other adverse effects	No data available.
VM&P Naphtha(64742-89	<del>2</del> -0)



LL50 (Fish)	8.2 mg/l Exposure time: 96 h Test Type: semi-static test Analytical monitoring: yes GLP: yes
EL50 (Daphnia magna	4.5 mg/l Exposure time: 48 h Test Type: Immobilization Analytical monitoring: yes Test
(Water flea))	substance: Naphtha GLP: yes
EL50	3.7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes GLP: yes.
(Pseudokirchneriella	Ecotoxicology Assessment Acute aquatic toxicity: Harmful to aquatic organisms.
subcapitata (green	
algae))	
Persistence and	Biodegradability: Concentration: 49.2 mg/l Result: Readily biodegradable. Biodegradation: 77
degradability	% Testing period: 2 d Exposure time: 28 d GLP: yes
Bioaccumulative	Partition coefficient: noctanol/water: log POW: 2.13 - 4.85 (25 °C)
potential	
Mobility in soil	No data available.
Other adverse effects	No data available.
Xylene(1330-20-7)	
LC50 (Oncorhynchus	2.6 mg/l Exposure time: 96 h Test substance: Information given is based on data obtained from
mykiss (rainbow	similar substances. Method: OECD Test Guideline 203 GLP: No data available
trout))	
IC50 (Daphnia magna	1 mg/l Exposure time: 24 h Test Type: static test Test substance: Information given is based on
(Water flea))	data obtained from similar substances. Method: OECD Test Guideline 202 GLP
EC50	4.36 mg/l End point: Growth rate Exposure time: 73 h Test Type: static test Analytical
(Pseudokirchneriella	monitoring: yes
subcapitata)	
Persistence and	Biodegradability: Inoculum: activated sludge Result: Readily biodegradable. Biodegradation: 72
degradability	% Exposure time: 20 d
Bioaccumulative	Partition coefficient: noctanol/water : log Pow: 2.77 - 3.15
potential	
Mobility in soil	No data available.

#### 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 incinerate. 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, flammable

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, flammable

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

EMERGENCY RESPONSE GUIDE (ERG) :  $10\ L$ 

IMDG (OCEAN)

**PROPER SHIPPING NAME:** Aerosols, flammable

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

EMERGENCY RESPONSE GUIDE (ERG): F-D S-U

**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#
VM&P Naphtha	64742-89-8
Ethylene glycol mono butyl ether	111-76-2
Methyl Ethyl Ketone	78-93-3
Phenylethane	100-41-4
Xylene	1330-20-7
Carbon Black	1333-86-4
Ethyl Alcohol	64-17-5

**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#
Acetone	67-64-1
Propane Blend	74-98-6
Isobutyl Acetate	110-19-0
VM&P Naphtha	64742-89-8
Titanium Dioxide	13463-67-7
Isopropyl Alcohol	67-63-0
Ethylene glycol mono butyl ether	111-76-2
Methyl Ethyl Ketone	78-93-3
Phenylethane	100-41-4

### **CLEAN AIR ACT:**

This product contains:	Chemical CAS#
Meta-Xylene	108-38-3
Phenylethane	100-41-4
O-Xylene	95-47-6
Para-Xylene	106-42-3
Benzene	71-43-2
Toluene	108-88-3

### **INTERNATIONAL REGULATIONS**

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

Flam. Liq. Cat. 2	H223
Skin Irrit. Cat 2	H315
Eye Irrit. Cat. 2	H319
Acute Tox. Cat. 4	H332
STOT SE Cat. 3	H335
STOT SE Cat. 3	H336
Carc. Cat. 2	H351
STOT Re Cat. 2	H373



### **NATIONAL REGULATIONS**

This product contains:	Chemical CAS#
~Titanium Dioxide	13463-67-7
~Isopropyl Alcohol	67-63-0
~Phenylethane	100-41-4

### **IARC KEY**

- $\sim$  Indicates a chemical listed by IARC as a possible carcinogen.
- ^ Indicates a chemical listed by IARC as a carcinogen.

### **STATE REGULATIONS CALIFORNIA PROPOSITION 65**

This product contains:	Chemical CAS#
*Phenylethane	100-41-4
#Benzene	71-43-2
+Toluene	108-88-3

# **PROPOSTION 65 KEY**



\* WARNING Cancer - www P65Warnings.ca.gov



# MARNING Reproductive Harm – www P65Warnings.ca.gov

+ MARNING Cancer and Reproductive Harm – www P65Warnings.ca.gov

# Massachusetts Right to Know

This product contains	Chemical CAS#
Acetone	67-64-1
Ethylene glycol mono butyl ether	111-76-2
Methyl Ethyl Ketone	78-93-3
Phenylethane	100-41-4
Xylene	1330-20-7
O-Xylene	95-47-6
Para-Xylene	106-42-3
Carbon Black	1333-86-4
Benzene	71-43-2

# Pennsylvania Right to Know

This product contains	Chemical CAS#
Acetone	67-64-1
Titanium Dioxide	13463-67-7
Ethylene glycol mono butyl ether	111-76-2
Methyl Ethyl Ketone	78-93-3
Phenylethane	100-41-4
Xylene	1330-20-7
Amorphous Silica	7631-86-9
O-Xylene	95-47-6
Para-Xylene	106-42-3
Aluminum Hydroxide	21645-51-2
Carbon Black	1333-86-4
Ethyl Alcohol	64-17-5
Toluene	108-88-3



**New Jersey Right to Know** 

This product contains	Chemical CAS#
Acetone	67-64-1
Titanium Dioxide	13463-67-7
Ethylene glycol mono butyl ether	111-76-2
Methyl Ethyl Ketone	78-93-3
Phenylethane	100-41-4
Xylene	1330-20-7
Amorphous Silica	7631-86-9
O-Xylene	95-47-6
Para-Xylene	106-42-3
Aluminum Hydroxide	21645-51-2
Carbon Black	1333-86-4
Ethyl Alcohol	64-17-5

# **16. OTHER INFORMATION**

# **Other Product Information**

% Volatile by Volume: 93.63 % Volatile by Weight: 86.81 % Solids by volume: 6.37 % Solids by Weight: 13.19 % Exempt by Volume: 28.87 % Exempt by Weight: 29.89

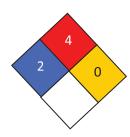
**VOC CONTENT:** Excluding Exempt VOC: 611

Including Exempt VOC: 435

### **HMIS RATING**

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





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.