

SAFETY DATA SHEET



DATE ISSUED :	7/16/2016
SDS REF. No :	1200-11

1200-11 LACQUER RETARDER

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 1200-11 LACQUER RETARDER

PRODUCT CODE: 1200-11

PRODUCT USE: Industrial Solvent Blend

MANUFACTURER

Cardinal Industrial Finishes
1329 Potrero Ave

S. El Monte, CA,
626 444-9274

24 HR. EMERGENCY TELEPHONE NUMBER

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

CHEMTREC (International : 1(202)483-7616

Transportation)

WEB: WWW.CARDINALPAINT.COM

2. HAZARDS IDENTIFICATION

PICTOGRAMS



SIGNAL WORD : DANGER

HAZARD STATEMENTS :

H302 Harmful if swallowed.

H320 Causes serious eye irritation.

PRECAUTIONARY STATEMENTS :

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

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.

P243 Take precautionary measures against static discharge.

P264 Wash thoroughly after handling.

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

P270 Do not eat, drink or smoke when using this product.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %	CAS Number	
Ethylene glycol mono butyl ether	20% - 25%	111-76-2	
VM&P Naphtha	20% - 25%	64742-89-8	

Methyl Ethyl Ketone	20% - 25%	78-93-3	
Isopropyl Alcohol	15% - 20%	67-63-0	
Isobutyl Acetate	10% - 15%	110-19-0	
Xylene	1% - 5%	1330-20-7	
Phenylethane	1% - 5%	100-41-4	

4. FIRST AID MEASURES

Description of first and 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 may 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.

ENVIROMENTAL 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

Ethylene glycol mono butyl ether(111-76-2)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA NIOSH	NIOSH REL (ppm)	5 ppm
USA OSHA	OSHA PO TWA (ppm)	25 ppm
USA OSHA	OSHA TABLE Z-1 TWA (mg/m3)	50 ppm, 240 mg/m3
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 STEL	400 ppm
USA ACGIH	ACGIH TWA	200 ppm
USA NIOSH	NIOSH IDLH	2,000 ppm
USA OSHA	OSHA TWA	400 ppm, 980 mg/m3
Methyl Ethyl Ketone(78-93-3)		
USA ACGIH	ACGIH STEL (ppm)	300 ppm
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	100 ppm
USA OSHA	OSHA PEL TWA (mg/m3)	410 mg/m3
Phenylethane(100-41-4)		
USA ACGIH	ACGIH STEL	125 ppm
USA ACGIH	ACGIH TWA	20 ppm
USA NIOSH	NIOSH REL	100 ppm, 435 mg/m3
USA NIOSH	NIOSH REL (ST)	125 ppm, 545 mg/m3
USA OSHA	OSHA STEL	125 ppm, 545 mg/m3
USA OSHA	OSHA TWA (Table Z-1)	100 ppm, 435 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 STEL	150 ppm
USA ACGIH	ACGIH TWA	100 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	:	175.0 deg F TO 334.0 deg F
Flash point	:	24.00 deg F
Lower explosion limit	:	.8
Upper explosion limit	:	12.7
Vapor pressure	:	185 mm Hg
Vapor density	:	Heavier than air
Relative density	:	No data available.
Density	:	6.8278
Solubility	:	No data available.
Partion coefficient: n-octanol/water	:	No data available.
Autoignition temperature	:	No data available.
Decomposition temperature	:	No data available.

10. STABILITY AND REACTIVITY

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

CHEMICAL STABILITY : Stable under normal conditions.

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

INCOMPATIBLE MATERIALS : Avoid contact with strong oxidizing agents.

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

11. TOXICOLOGICAL INFORMATION

Ethylene glycol mono butyl ether(111-76-2)	
Aspiration toxicity	Remarks: No data available.
Carcinogenicity	Species mouse, Application Route: Inhalation, Exposure time 2 yr, Activity duration: 6 h, Frequency of Treatment: 5 days/week, NAOEL: 125 ppm Result: Limited evidence of carcinogenic effects with no relevance to humans., Carcinogenicity-Assessment: Not evidence of carcinogenicity in animal studies..
Further information	Product Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.,
Germ cell mutagenicity	Genotoxicity in vitro: Test Type: Mammalian cell gene mutation assay; Test species: Chinese hamster (CHO), Metabolic activation: with and without metabolic activation. Result: negative., Genotoxicity in vivo: Test Type: In vivo micronucleus test., Test species:: mouse (male), application Route: Intraperitoneal, Result: negative., Germ cell mutagenicity Assessment: Tests on bacterial or mammalian did not show mutagenic effects.
LC50 (rat) inhalation	Acute inhalation toxicity: 500 ppm, Exposure time: 4 h; Assessment: the component/mixture is moderately toxic after short term inhalation.
LC50 (rat) Oral	Acute toxicity estimate: 500 mg/kg; Method: Expert judgment.; Assessment: the component/mixture is moderately toxic after single ingestion.
LD50 (rat) dermal	Acute toxicity estimate: 1,1000 mg/kg; Method: Expert judgment; Assessment: the component/mixture is moderately toxic after single contact with skin.
Repeated dose toxicity	Species: rat NOAEL: 30, Application Route: Inhalation Exposure time: 14 wk Number of exposures: 6 h/d, 5 d/wk.
Reproductive toxicity	Effects on fertility : Test Type: Two-generation study Species: mouse Application Route: oral Fertility: NOAEL: 720 mg/kg body weight Symptoms: Reduced fertility Result: Reduced fertility at maternally toxic doses Effects on fetal development : Test Type: Embryo-fetal development

	Species: rat Application Route: Inhalation Duration of Single Treatment: 10 d Frequency of Treatment: 6 hr/day Developmental Toxicity: Lowest observed adverse effect level: 100 ppm Result: Developmental toxicity occurred at maternal toxicity dose levels Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments
Respiratory or skin sensitization	Test Type: Maximization test, Species guinea pig, Result: Did not cause sensitization on laboratory animals.
Serious eye damage/ eye irritation	Species rabbit, Exposure time 24 h, Result: Irritating to eyes.
Skin corrosion/irritation	Remarks: Moderate skin irritation in susceptible persons., Species rabbit, Exposure time 24 h, Result: Mild skin irritation
STOT - repeated exposure	No data available.
STOT - single exposure	No data available.
Isobutyl Acetate(110-19-0)	
Aspiration hazard	No data available.
Carcinogenicity	No data available.
LC50 Inhalation	No data available
LD50 (Rabbit) Dermal	> 17,400 mg/kg
LD50 (Rat) Oral	3,200 - 6,400 mg/m3
Mutagenicity	In vitro Product: Salmonella typhimurium assay (Ames test), : negative +/- activation In vivo Product: Chromosomal aberration, oral: gavage (Mouse): Read-across from a similar material.
Other adverse effects	No data available.
Repeated dose toxicity	NOEL (Rat, Oral Study, 92 d): 316 mg/kg Read-across from a similar material.
Reproductive toxicity	No data available.
Respiratory or skin sensitization	Skin Sensitization:, (Guinea Pig) - non-sensitizing.
Serious eye damage/eye irritation	(Rabbit): none
Skin corrosion/irritation	(Rabbit, 4 h): none
Specific target organ toxicity - repeated exposure	No data available.
Specific target organ toxicity - single exposure	No data available.
Isopropyl Alcohol(67-63-0)	
Aspiration hazard	Based on physico-chemical values or lack of human evidence, not classified.
Carcinogenicity	Not classified.
Effects on Development	Not classified.
Germ cell mutagenicity	Not classified No adverse effect observed.
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
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).
Reproductive toxicity	Effects on fertility / Effects on or via lactation: Not classified.
Respiratory or skin sensitization	Not classified No adverse effect observed.
Serious eye damage/eye irritation	Classified Causes serious eye irritation.
Skin corrosion/irritation	Based on skin irritation values, not classified. Liquid may cause slight skin irritation. Exposure of liquid to the underdeveloped skin of premature infants may cause severe irritation.
Target Organ Systemic Toxicant - Repeated exposure	Based on repeated exposure toxicity values, not classified.
Target Organ Systemic Toxicant - Single exposure	Routes of exposure: Ingestion, Inhalation Target Organs: Central nervous system Classified, May cause drowsiness or dizziness.
Methyl Ethyl Ketone(78-93-3)	
Aspiration toxicity	Product: May be harmful if swallowed and enters airways.
Carcinogenicity	Remarks: This information is not available, Carcinogenicity-Assessment: Not classified as a

	human carcinogen.
Further information	Product Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.,
Germ cell mutagenicity	Genotoxicity in vitro: Test Type: Ames test, Metabolic activation: with and without metabolic activation, Method OECD Test Guideline 471
LC50 (mouse) inhalation	320 mg/l (4 h exposure)
LC50 (rat) Oral	3737 mg/kg
LD50 (rabbit) dermal	6,480 mg/kg
Reproductive toxicity	Effects on fetal development, Species: rat female, Application Route: Inhalation, Dose: 400, 1000, 3000 ppm,
Respiratory or skin sensitization	Test Type: Buehler Test, Species guinea pig, Method OECD Test Guideline 406, Result: Did not cause sensitization on laboratory animals.
Serious eye damage/eye irritation	Remarks: Severe skin irritation, Species rabbit, Exposure time 24 h, Result: Irritation to eyes
Skin corrosion/irritation	Remarks: Moderate skin irritation, Species rabbit, Exposure time 24 h, Result: Mild skin irritation
STOT - repeated exposure	Product: No data available, Components: No data available.
STOT - single exposure	Product: Target Organs: Central Nervous system, Components: Exposure routes: Inhalation, Product: Target Organs: Central Nervous system
Phenylethane(100-41-4)	
Aspiration toxicity	May be fatal if swallowed and enters airways.
Carcinogenicity	Species: mouse, (male and female) Application Route: Inhalation Exposure time: 103 wk 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 neoplasm's, increase incidence of hepatocellular carcinomas GLP: yes Carcinogenicity - Assessment : Carcinogenicity classification not possible from current data.
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 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 mutagenic effects
LC50 (Mouse, Male)	10 mg/l Assessment: The component/mixture is moderately toxic after short term inhalation.
LD50 (rabbit)	15,433 mg/kg
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
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.
Respiratory or skin sensitization	Remarks: No data available
Serious eye damage/eye irritation	Species: rabbit Result: Mild eye irritation Remarks: No data available
Skin corrosion/irritation	Species: rabbit Result: Mild skin irritation
STOT - repeated exposure	Target Organs: Auditory system Assessment: May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.
STOT - single exposure	No data available.
VM&P Naphtha(64742-89-8)	
Aspiration toxicity	Aspiration Toxicity - Category 1
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

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 Test species: rat (male and female) Application Route: Inhalation Exposure time: 6 hours/day Dose: 0, 2000, 10000, 20000 mg/m ³ Result: negative GLP: yes Germ cell mutagenicity Assessment : Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.
LC50 Inhalation (rat, male and female)	7.6 mg/l Exposure time: 4 h Test atmosphere: VAPOR Method: OECD Test Guideline 403 GLP: yes
LD50 Dermal (rabbit, male and female)	> 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes
LD50 Oral (rat, male and female)	> 5,000 mg/kg Method: OECD Test Guideline 401 GLP: yes
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 (VAPOR) Test atmosphere: VAPOR 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: 10000002744 30 / 44 VM&P Naphtha Dose: 322, 1402, 9869 mg/m ³ GLP: yes Target Organs: Kidney Symptoms: Nasal and ocular discharge.
Reproductive toxicity	Effects on fertility : Test Type: Two-generation study Species: rat, male and female Application Route: VAPOR Dose: 0, 5000, 10000, 20000 mg/m ³ Duration of Single Treatment: 6 h Frequency of Treatment: 7 days/week General Toxicity - Parent: NOAEC: > 20,000 mg/m ³ General Toxicity F1: NOAEC: > 20,000 mg/m ³ Symptoms: No adverse effects. Method: OECD Test Guideline 416 GLP: yes Effects on foetal development : Species: rat Application Route: Inhalation Dose: 2653, 7960, 23900 mg/m ³ Duration of Single Treatment: 6 h Frequency of Treatment: 7 days/week General Toxicity Maternal: NOAEL: 23,900 mg/m ³ Embryo-foetal toxicity.: NOAEL: 23,900 mg/m ³ Symptoms: No malformations were observed. Method: OECD Test Guideline 414 GLP: yes
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.
Serious eye damage/eye irritation	Species: rabbit Result: Not irritating to eyes Exposure time: 1 - 2 s Classification: Not irritating to eyes GLP: yes Remarks: No eye irritation
Skin corrosion/irritation	Species: rabbit Exposure time: 4 h Classification: Irritating to skin Result: Irritating to skin GLP: yes
STOT - repeated exposure	No data available.
STOT - single exposure	Exposure routes: Inhalation Target Organs: Central nervous system Assessment: May cause drowsiness or dizziness.
Xylene(1330-20-7)	
Acute dermal toxicity	Acute toxicity estimate : 1,100 mg/kg Method: Expert judgment.
Acute inhalation toxicity	Acute toxicity estimate, 4631 ppm Exposure time, 4 h Test atmosphere: gas Method; Calculation method.
Acute toxicity Product	Acute oral toxicity : Acute toxicity estimate : 3,523 mg/kg Method: Calculation method.
Aspiration Toxicity	May be fatal if swallowed and enters airways.
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.
Germ cell mutagenicity	Test Type: Chromosome aberration test in vitro. Test Species: Chinese hamster ovary (CHO) Metabolic Activation: With and without metabolic activation. Method Mutagenicity (in vitro mammalian cytogenetic test) Result: Negative. Test Type: Sister chromatid exchange assay in mammalian cells.
Germ cell mutagenicity Assessment	Animal testing did not show any mutagenic effects.
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
LC50 (rat, male) Oral	3,523 mg/kg Method: EU Method B.1 (Acute Toxicity, Oral) Target Organs: Kidney, Bladder GLP: no
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.
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
Respiratory or skin sensitization	Remarks: No data available
Serious eye damage/eye irritation	Species: rabbit Result: Mild eye irritation
Skin corrosion/irritation	Species: rabbit Exposure time: 24 h Result: Irritating to skin Remarks: Skin irritation, Category 2
STOT - repeated exposure	Target Organs: Liver, Kidney, Central nervous system Assessment: May cause damage to organs through prolonged or repeated exposure.
STOT - single exposure	No data available.

12. ECOLOGICAL INFORMATION

Ethylene glycol mono butyl ether(111-76-2)	
Bioaccumulative potential	Partition coefficient: n-octanol/water: log Pow: 0.83
EC50 (Algae)	911 mg/l End point: Biomass Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: no
EC50 (Daphnia)	1,800 mg/l(48 h; Daphnia magna (Water flea)): Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: no
LC50 (fish)	1,474 mg/l Pimephales promelas (Fathead minnow))Exposure time: 96 h Test Type: static test, Method: OECD Test Guideline 203 GLP: no
Mobility in soil	No data available
Other adverse effects	No data available
Persistence and degradability	aerobic Inoculum: Activated sludge, domestic, adaption not specified, Result: Readily biodegradable. Biodegradation: 90.4 % Exposure time: 28 d Method: OECD Test Guideline 301B GLP: no
Product	Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:
Isobutyl Acetate(110-19-0)	
Bioaccumulative potential Product	No data available.
Biological Oxygen Demand	BOD-5: 970 mg/g BOD-20: 1,300 mg/g
BOD/COD ratio	0.52 %
Chemical Oxygen Demand	1,870 mg/g
EC50 (Alga)	370 mg/l, (72 h, (Alga))
EC50 (Daphnia)	28.2 mg/l, (48 h, (Daphnid))
LC50 (Fish)	22.4 mg/l, (96 h, (Fathead minnow))
Mobility in soil	Known or predicted distribution to environmental compartments isobutyl acetate 1.193 - 1.844 (QSAR model)
NOEC (Alga)	95 mg/l, (72 h, Alga))
Other adverse effects	No data available.
Persistence and degradability	81 % (20 d, Ready Biodegradability: Closed Bottle Test) Readily biodegradable
Results of PBT and vPvB assessment	Not fulfilling PBT (persistent/Bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent, very Bioaccumulative) criteria
Isopropyl Alcohol(67-63-0)	
Bioaccumulative potential	Bioaccumulation: Bioconcentration factor (BCF): 3.16 this material is not expected to bioaccumulate.
Ecotoxicology Assessment	Acute aquatic toxicity: Based on acute aquatic toxicity values, not classified. Chronic aquatic toxicity: Not classified, based on readily biodegradability and low acute toxicity.
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.
Other adverse effects Additional ecological information	No additional information available.
Persistence and degradability	Biodegradability : 86 - 94 % Rapidly degradable. (After two weeks in a ready biodegradability test)
Results of PBT and vPvB assessment	Not applicable.
Toxicity to algae	Acute toxicity to aquatic plants very low.
Toxicity to bacteria	Low toxicity to sewage microbes.

Toxicity to daphnia and other aquatic invertebrates	Acute toxicity to freshwater and marine invertebrates is very low.
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	Chronic toxicity expected to be low.
Toxicity to fish	Acute toxicity to fish is very low.
Toxicity to fish (Chronic toxicity)	Chronic toxicity to fish is expected to be low.
Methyl Ethyl Ketone(78-93-3)	
Bioaccumulative potential	Partition coefficient: n-octanol/water: log Pow: 2.49
EC50 (Algae)	2029 mg/l (48 h; Pseudokirchneriella subcapitata (Green Algae))
EC50 (Daphnia)	308 mg/l (48 h; Daphnia magna (Water flea))
LC50 (fish)	2993 mg/l (96 h; Pimephales promelas (Fathead minnow))
Mobility in soil	No data available
Other adverse effects	No data available
Persistence and degradability	Biodegradability: Concentration: 2mg/l; Result: Readily biodegradation: 98%; Exposure 28 d;
Product	Regulation: 40CFR Protection of Environment, Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class 1 Substances:
Phenylethane(100-41-4)	
Bioaccumulative potential	Partition coefficient: noctanol/water : log Pow: 2.92
EC50 (Daphnia magna (Water flea))	1.8 mg/l Exposure time: 48 h Test Type: static test
EC50 (Pseudokirchneriella subcapitata)	5.4 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: Static GLP: yes
LC50 (Oncorhynchus mykiss (rainbow trout))	4.2 mg/l Exposure time: 96 h Test Type: semi-static test
Mobility in soil	No data available.
Other adverse effects	Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulation nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulation (vPvB).
Persistence and degradability	Biodegradability : Inoculum: activated sludge Concentration: 22 mg/l Result: Readily biodegradable. Biodegradation: 70 % Exposure time: 28 d GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	(Daphnia): 3.6 mg/l Toxicity to bacteria : GLP: Remarks: No data available Ecotoxicology Assessment Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.
VM&P Naphtha(64742-89-8)	
Bioaccumulative potential	Partition coefficient: noctanol/water: log POW: 2.13 - 4.85 (25 °C)
EL50 (Daphnia magna (Water flea))	4.5 mg/l Exposure time: 48 h Test Type: Immobilization Analytical monitoring: yes Test substance: Naphtha GLP: yes
EL50 (Pseudokirchneriella subcapitata (green algae))	3.7 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: yes GLP: yes. Ecotoxicology Assessment Acute aquatic toxicity : Harmful to aquatic organisms.
LL50 (Fish)	8.2 mg/l Exposure time: 96 h Test Type: semi-static test Analytical monitoring: yes GLP: yes
Mobility in soil	No data available.
Other adverse effects	No data available.
Persistence and degradability	Biodegradability : Concentration: 49.2 mg/l Result: Readily biodegradable. Biodegradation: 77 % Testing period: 2 d Exposure time: 28 d GLP: yes
Xylene(1330-20-7)	
Bioaccumulative potential	Partition coefficient: noctanol/water : log Pow: 2.77 - 3.15
EC50 (Pseudokirchneriella subcapitata)	4.36 mg/l End point: Growth rate Exposure time: 73 h Test Type: static test Analytical monitoring: yes
IC50 (Daphnia magna (Water flea))	1 mg/l Exposure time: 24 h Test Type: static test substance: Information given is based on data obtained from similar substances. Method: OECD Test Guideline 202 GLP
LC50 (Oncorhynchus mykiss (rainbow trout))	2.6 mg/l Exposure time: 96 h Test substance: Information given is based on data obtained from similar substances. Method: OECD Test Guideline 203 GLP: No data available
Mobility in soil	No data available.

Persistence and degradability	Biodegradability : Inoculum: activated sludge Result: Readily biodegradable. Biodegradation: 72 % Exposure time: 20 d
-------------------------------	-----------------------------------------------------------------------------------------------------------------------

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 RESTRCITIONS THAT MAY APPLY.**

USDOT GROUND

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME (DOT) : Paint Related Material

HAZARDS CLASS : 3

UN/NA NUMBER : UN1263

PACKING GROUP : PG II

EMERGENCY RESPONSE GUIDE (ERG) : 128

IATA (AIR)

DOT (INTERNATIONAL AIR TRANSPORTATION ASSOCIATION)

PROPER SHIPPING NAME : Paint, flammable liquid

HAZARDS CLASS : 3

UN/NA NUMBER : UN1263

PACKING GROUP : PG II

EMERGENCY RESPONSE GUIDE (ERG) : 128

IMDG (OCEAN)

PROPER SHIPPING NAME : Paint, flammable liquid

HAZARDS CLASS : 3

UN/NA NUMBER : UN1263

PACKING GROUP : PG II

EMERGENCY RESPONSE GUIDE (ERG) : 128

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#
Xylene	1330-20-7
Phenylethane	100-41-4

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

SARA TITLE III (SUPERFUND AMENDMENRS AND REAUTHORIZATION ACT)

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

SARA 313 :

This product contains:	Chemical CAS#
------------------------	---------------

*Ethylene glycol mono butyl ether	111-76-2
VM&P Naphtha	64742-89-8
^Methyl Ethyl Ketone	78-93-3
*Isopropyl Alcohol	67-63-0
Isobutyl Acetate	110-19-0
*Xylene	1330-20-7
*Phenylethane	100-41-4

CLEAN AIR ACT :

This product contains:	Chemical CAS#
Phenylethane	100-41-4

INTERNATIONAL REGULATIONS

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

Flam. Liq. 2 H226
 Acute Tox. inhalation, Cat. 4; H332
 STOT SE, inhalation, Cat. 3; H335
 Skin Sens. 1; H317

NATIONAL REGULATIONS

This product contains:	Chemical CAS#
#Phenylethane	100-41-4

Indicates a chemical listed by IARC as a possible carcinogen.

**STATE REGULATIONS
 CALIFORNIA PROPOSITION 65**

This product contains:	Chemical CAS#
*Phenylethane	100-41-4

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

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

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

Massachusetts Right to Know

This product contains	Chemical CAS#
Xylene	1330-20-7
Phenylethane	100-41-4

Pennsylvania Right to Know

This product contains	Chemical CAS#
Xylene	1330-20-7
Phenylethane	100-41-4

New Jersey Right to Know

This product contains	Chemical CAS#
Xylene	1330-20-7
Phenylethane	100-41-4

16. OTHER INFORMATION

Other Product Information

% Volatile by Volume: 100.00
 % Solids by volume: 0.00
 % Exempt by Volume: 0.00

% Volatile by Weight: 100.00
 % Solids by Weight: 0.00
 % Exempt by Weight: 0.00

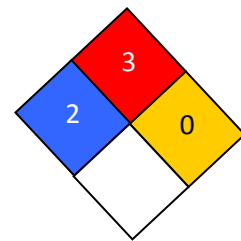
VOC CONTENT:

Excluding Exempt VOC: 818
 Including Exempt VOC: 818

HMIS RATING

Health :	2*
Flammability :	3
Reactivity :	0
Personal Protection :	J

NFPA CODES



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