

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKEN

Kardol Quality ProductsSDS Information Number1-800-252-73659933 Alliance RdTelephone1-513-933-8206Cincinnati, OH 45242Emergency Telephone Number1-800-424-9300

Product Name Pre Clean

Product Code 150330, 150332, 150334, 150336

Product Use or Description No Data

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: Liquid

DANGER! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY BE HARMFUL IF INHALED. HARMFUL IF SWALLOWED. MAY CAUSE BLINDNESS. MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE DERMATITIS AND BURNS.

Potential Health Effects

Exposure Routes: Inhalation, Skin Absorbtion, Skin Contact, Eye Contact, Ingestion.

Eye Contact: Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin Contact: Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, skin burns, and other skin damage.

Ingestion: Swallowing this material may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation: Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8).

Aggravated Medical Condition: Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:, Skin, Upper respiratory tract, lung (for example, asthma-like conditions), Liver, Kidney, Central nervous system, pancreas, Heart, blood-forming system, auditory system, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias., Individuals with preexisting heart disorders maybe more susceptible to arrhythmias (irregular heartbeats) if exposed to high concentrations of this material.

Symptoms: Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:, metallic taste, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), runny nose, central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, temporary changes in mood and behavior, muscle cramps, pain in the abdomen and lower back, Blurred vision, Shortness of breath, Lack of coordination, confusion, irregular heartbeat, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), high blood sugar, visual impairment (including blindness), coma.

Target Organs: Exposure to this material (or a component) has been found to cause kidney damage in male rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans., This material (or a component) shortens the time of onset or worsens the liver and kidney damage induced by other chemicals., Exposure to lethal concentrations of methanol has been shown to cause damage to organs including liver, kidneys, pancreas, heart, lungs and brain. Although this rarely occurs, survivors of severe intoxication may suffer from permanent neurological damage., Prolonged intentional toluene abuse may lead to damage to many organ systems having effects on: central and peripheral nervous systems, vision, hearing, liver, kidneys, heart and blood. Such abuse has been associated with brain damage characterized by disturbances in gait, personality changes and loss of memory. Comparable central nervous system effects have not been shown to result from occupational exposure to toluene., Prolonged intentional toluene abuse may lead to hearing loss progressing to deafness. In addition, while noise is known to cause hearing loss in humans, it has been suggested that workers exposed to organic solvents, including toluene, along with noise may suffer greater hearing loss than would be expected from exposure to noise alone., Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals:, mild, reversible kidney effects, blood abnormalities, liver abnormalities, respiratory tract damage (nose, throat, and airways), central nervous system damage, effects on hearing, central nervous system damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans:, kidney damage, visual impairment.

Carcinogenicity: This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

Reproductive hazard: Toluene may be harmful to the human fetus based on positive test results with laboratory animals. Case studies show that prolonged intentional abuse of toluene during pregnancy can cause birth defects in humans., Methanol has caused birth defects in laboratory animals, but only when inhaled at extremely high vapor concentrations. The relevance of this finding to humans is uncertain., This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	CAS-No.	Concentration
Isopropyl alcohol	67-63-0	10-15%
TOLUENE	108-88-3	5-10%
Solvent naphtha (petroleum), light aliph	64742-89-8	0 - 100%
Naphtha (petroleum), hydrotreated light	64742-49-0	0 - 100%

4. FIRST AID MEASURES

Eyes: If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin: Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation: If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Notes to Physician

Hazards: Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This product contains methanol which can cause intoxication and central nervous system depression. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 ug/dl. Methanol is effectively removed by hemodialysis. This material (or a component) has produced hyperglycemia and ketosis following substantial ingestion. This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting.

Treatment: No information available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, Carbon dioxide (CO2), Water spray.

Hazardous Combustion Products: Carbon dioxide and carbon monoxide, Hydrocarbons, Aldehydes, organic compounds.

Precaution For Fire-Fighting: Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Water may be ineffective for extinguishment unless used under favorable conditions by experienced fire fighters. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

NFPA Flammable and Combustible Liquids Classification: Flammable Liquid Class IB

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Ensure adequate ventilation. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Pay attention to the spreading of gases especially at ground level (heavier than air) and to the direction of the wind.

Environmental Precautions: Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.

Methods for Clean Up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Other Information: Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet.

7. HANDLING AND STORAGE

Handling: Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

Storage: Store in a cool, dry, ventilated area, away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Toluene		108-88-3
ACGIH	time weighted average	20 ppm
NIOSH	Recommended exposure limit (REL):	100 ppm
NIOSH	Recommended exposure limit (REL):	375 mg/m3
NIOSH	Short term exposure limit	150 ppm
NIOSH	Short term exposure limit	560 mg/m3
OSHA Z2	time weighted average	200 ppm
OSHA Z2	Ceiling Limit Value:	300 ppm
OSHA Z2	Maximum concentration:	500 ppm
Isopropyl alcohol		67-56-1
ACGIH	8-hour, time-weighted average	200 ppm
ACGIH	Short-term exposure limit	
	Time-weighted average concentration for up	
NIOSH	to a 10-hour workday during a 40-hour	400 ppm
	workweek	••
	Time-weighted average concentration for up	
NIOSH	to a 10-hour workday during a 40-hour	980 mg/m3
	workweek	you mg me
	STEL - 15-minute TWA exposure that	
NIOSH	should not be exceeded at any time during a	500 ppm
Mosii	workday	эоо ррш
	3	
Modif	STEL - 15-minute TWA exposure that	1005 / 2
NIOSH	should not be exceeded at any time during a	1225 mg/m3
	workday	

OSHA	8-hour time weighted average	400 ppm
OSHA	8-hour time weighted average	980 mg/m3
OSHA	8-hour time weighted average	400 ppm
OSHA	8-hour time weighted average	980 mg/m3
OSHA	Short-term exposure limit	500 ppm
OSHA	Short-term exposure limit	1.225 mg/m3

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC OSHA Z1 ACGIH OSHA Z1 time weighted average 300 ppm OSHA Z1 time weighted average 2,000 mg/m3 ACGIH time weighted average 1,370 mg/m3

General Advice: These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure Controls: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Eye Protection: Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and Body Protection: Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.

Wear resistant gloves (consult your safety equipment supplier).

Discard gloves that show tears, pinholes, or signs of wear.

Respiratory Protection: A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by airpurifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical stateliquidFormliquidColourWater-whiteOdourno data available

Boiling point/boiling range 133 °F / 56 °C @ 1,013.23 hPa Calculated Phase Transition Liquid/Gas

Melting point/rangeno data availableSublimation pointno data availablepHno data availableFlash point(>=)-4 °F / -20 °CIgnition temperatureno data availableEvaporation rateno data available

Lower explosion limit/Upper explosion limit 1.27 %(V) / 36 %(V) Calculated Explosive Limit

Particle size no data available

Vapour pressure 307.969 hPa @ 77 °F / 25 °C Calculated Vapor Pressure

Relative vapour density no data available

Density 6.850 lb/gal @ 68 °F / 20 °C

Bulk density No data

Water solubility no data available Solubility(ies) no data available Partition coefficient: n-octanol/water no data available no data available log Pow no data available **Autoignition temperature** Viscosity, dynamic no data available Viscosity, kinematic no data available **Solids in Solution** no data available **Decomposition temperature** no data available **Burning number** no data available

Dust explosion constantNo DataMinimum ignition energyno data available

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Heat, flames and sparks.

Incompatable Products: Acids, alkalis, aluminum, Amines, Ammonia, halogens, Lead, peroxides, Reducing agents, sodium, strong bases, Strong oxidizing agents,

Hazardous Decompisition Products: carbon dioxide and carbon monoxide, Hydrocarbons, formaldehyde, Aldehydes, organic compounds.

Hazardous Reactions: Product will not undergo hazardous polymerization.

Thermal decomposition: No Data

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	
Acute oral toxicity - Product	No Data Available
Acute oral toxicity - Components	
Solvent naphtha (petroleum), light aliph.	LD50: > 5,000 mg/kg Species: rat
Naphtha (petroleum), hydrotreated light	LD50: > 5,000 mg/kg Species: rat Symptoms: abnormal stools, incoordination
TOLUENE	LD50: > 5,580 mg/kg Species: rat
Isopropyl alcohol	LD50: > 5,500 mg/kg Species: rat Method: OECD Test
	Guideline 401 Symptoms: ataxia, decreased motor activity,
	bradypnea
Acute inhalation toxicity	
Acute inhalation toxicity Product	No Data Available
Acute inhalation toxicity Products	
Solvent naphtha (petroleum), light aliph.	LC50: 7.6 mg/l Exposure time: 4 h Species: rat
Naphtha (petroleum), hydrotreated light	LC50: Exposure time: 4 h Species: rat Remarks: Not classified
Toluene	LC50: 12,500 - 28,800 mg/l Exposure time: 4 h Species: Rat
Isopropyl alcohol	> 10,000 mg/l Exposure time: 6 h Species: rat Method:
	OECD Test Guideline 403 Symptoms: ataxia, labored
	breathing, decreased activity and muscle tone, decreased
	motor activity, depression
Acute dermal toxicity	
Acute inhalation toxicity - Product	No Data Available
Acute dermal toxicity - Components	
Solvent naphtha (petroleum), light aliph.	LD50: > 2,000 mg/kg Species: rabbit
Naphtha (petroleum), hydrotreated light	LD50: > 2,000 mg/kg Species: rabbit Method: Fixed dose procedure
Toluene	LD50: 12,196 mg/kg Species: rabbit
Isopropyl alcohol	LD50: Method: OECD Test Guideline 402

12. ECOLOGICAL INFORMATION

Biodegradability	
Biodegradability - Product	No Data Available
Biodegradability - Components	
Solvent naphtha (petroleum), light aliph.	77 % Testing period: 2 d Remarks: Inherently biodegradable
Naphtha (petroleum), hydrotreated light	aerobic 74.30 % Remarks: Inherently biodegradable.
Toluene	100 % Remarks: Readily biodegradable
Isopropyl alcohol	Primary biodegradation 53 %
Bioaccumulation	
Bioaccumulation - Product	Remarks: The bioaccumulation potential cannot be determined
Ecotoxicity effects	
Toxicity to fish	
Toxicity to fish - Product	No Data Available

Toxicity to fish - Components

Solvent naphtha (petroleum), light aliph.	LL50: 8.2 mg/l
	Exposure time: 96 h
	Analytical monitoring: yes
	Test Type: semi-static test
Naphtha (petroleum), hydrotreated light	LL50: 10 mg/l
	Exposure time: 96 h
	Species: Oncorhynchus mykiss (rainbow trout)
	Exposure time: 96 h
	Method: Static
Toluene	LC50: 7.63 mg/l
	LC50: 7.63 mg/l
	Species: Oncorhynchus mykiss (rainbow trout)
Isopropyl alcohol	No Data Available

Toxicity to daphnia and other aquatic invertebrates:

Toxicity to daphnia and other aquatic	No Data Available
invertebrates - Product	No Data Available

Toxicity to daphnia and other aquatic invertebrates - Components

Solvent naphtha (petroleum), light aliph.	EL50: 4.5 mg/l
	Exposure time: 48 h
	Species: Daphnia magna (Water flea)
	Analytical monitoring: yes
	Test substance: Naphtha
	Test Type: Immobilization
Naphtha (petroleum), hydrotreated light	EL50: 4.5 mg/l
	Exposure time: 48 h
	Species: Daphnia magna (Water flea)
	Analytical monitoring: yes
	Method: Static
Toluene	EC50: 8.0 mg/l
	Exposure time: 24 h
	Species: Daphnia magna (Water flea)
Isopropyl alcohol	No Data Available

Toxicity to algae

Toxicity to algae product	No Data Available
Toxicity to algae - Components	
Solvent naphtha (petroleum), light aliph.	EL50: 3.7 mg/l
	Exposure time: 96 h
	Species: Pseudokirchneriella subcapitata (green algae)
	Analytical monitoring: yes
	Test Type: static test
Naphtha (petroleum), hydrotreated light	EL50: 3.71 mg/l
	Exposure time: 96 h
	Species: Selenastrum capricornutum (green algae)
	Analytical monitoring: yes
	Method: Static
TOLUENE	EC50: 10 mg/l
	Exposure time: 24 h
	Species: Pseudokirchneriella subcapitata (green algae)
Isopropyl alcohol	No Data Available
Toyicity to Bactoria	no data available

Toxicity to Bacteria no data available
Biochemical Oxygen Demand (BOD) no data available
Chemical Oxygen Demand (COD) no data available
Additional ecological information no data available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Kardol's Environmental Services at 800-252-7365.

14. TRANSPORT INFORMATION

US. Toxic Substances Control Act

14. TRANSPORT INFORMATION		
REGULATION		
ID Number / Proper Shipping Name / *Hazard Class / Subsidiary Hazards / Pac	cking Group / Packing Group/ Marine Pollutant LTD QTY	
U.S. DOT - ROAD		
U.N. 1263 PAINT RELATED MATERIAL 3	II	
U.S. DOT - RAIL		
U.N. 1263 PAINT RELATED MATERIAL 3	II	
U.S. DOT - INLAND WATERWAYS		
U.N. 1263 PAINT RELATED MATERIAL 3	II	
TRANSPORT CANADA - ROAD		
U.N. 1263 PAINT RELATED MATERIAL 3	II	
TRANSPORT CANADA - RAIL		
U.N. 1263 PAINT RELATED MATERIAL 3	II	
TRANSPORT CANADA - INLAND WATERWAYS		
U.N. 1263 PAINT RELATED MATERIAL 3	II	
INTERNATIONAL MARITIME DANGEROUS GOODS		
U.N. 1263 PAINT RELATED MATERIAL 3	II	
INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO		
U.N. 1263 PAINT RELATED MATERIAL 3	II	
INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER		
U.N. 1263 PAINT RELATED MATERIAL 3	II	
MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES	5	
U.N. 1263 PAINT RELATED MATERIAL 3	II	
*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID		
Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-s descriptions that are specific to the shipment.	pecific exceptions that can be applied. Consult snipping documents for	
15. REGULATORY INFORMATION		
California Prop. 65		
WARNING! This product contains a chemical known to the State of California to cause cancer.	ETHYL BENZENE	
	NAPHTHALENE	
	BENZENE	
WARNING! This product contains a chemical known to the State of California to cause birth	TOLUENE	
defects or other reproductive harm. SARA Hazard Classification	BENZENE	
Fire Hazard Acute Chronic		
Acute Health Hazard		
Chronic Health Hazard		
SARA 313 Component(s)		
TOLUENE 5-10%		
New Jersey RTK Label Information		
TOLUENE 108-88-3		
Pennsylvania RTK Label Information		
TOLUENE 108-88-3		
Notification status		
EU. EINECS	y (positive listing)	
IIS Toyic Substances Control Act	y (positive listing)	

Kardol Quality Products LLC Revised 12/18/15

y (positive listing)

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz.

Part II, Vol. 133)

Australia. Industrial Chemical (Notification and Assessment) Act

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand

Japan. Kashin-Hou Law List

Korea. Toxic Chemical Control Law (TCCL) List

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act

China. Inventory of Existing Chemical Substances

y (positive listing)

y (positive listing)

y (positive listing)

Reportable quantity - Product

US. EPA CERCLA Hazardous Substances (40 CFR 302) 1999 lbs

Reportable quantity-Components

TOLUENE 108-88-3 1000 lbs

	HMIS	NFPA
Health	2*	2
Flammability	3	3
Physical hazards	0	0
Instability	0	0
Specific Hazard	0	0

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Kardol's Environmental Health and Safety Department (1-800-252-7365).