MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Material name **OAK KLEEN® 322**
SOLVENT-BASED CLEANER

Version # 01

Issue date 04-30-2015

CAS # Mixture

MSDS Number Not applicable

Recommended use SOLVENT-BASED CLEANER

Manufacturer

Company name CIMCOOL® Industrial Products LLC
3000 Disney Street
Cincinnati, Ohio 45209

Telephone (General Information) 513-458-8199

Emergency telephone number 1-800-424-9300 (CHEMTREC)

Emergency telephone number (outside USA) 1-703-527-3887 (CHEMTREC)

Supplier

Company name Milacron Canada Corp.

Address 1175 Appleby Line Road, Unit B-1
Burlington Ontario L7L5H9 Canada

Telephone (General Information) 905-319-1919

Emergency telephone number (outside USA) 1-703-527-3887 (CHEMTREC)

2. Hazards Identification

Emergency overview Combustible liquid. May cause eye irritation. May cause skin irritation. May be fatal if swallowed and enters airways. Avoid prolonged contact with eyes, skin and clothing.

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Eyes May cause eye irritation. Health injuries are not known or expected under normal use.

Skin May cause skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Inhalation Prolonged inhalation may be harmful. Health injuries are not known or expected under normal use.

Ingestion Pulmonary aspiration hazard if swallowed and/or vomiting occurs - can enter lungs and cause damage. Do not ingest.

3. Composition/Information on Ingredients

Components	CAS #	Percent
C9-C11 ISOALKANES	68551-16-6	60 - 100

4. FIRST AID MEASURES

First aid procedures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, get medical attention.

Skin contact Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur.

Ingestion	Rinse mouth thoroughly. Do not induce vomiting. Do not give liquids. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Call a POISON CENTER or doctor/physician if you feel unwell.
Notes to physician	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
General advice	If exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

5. FIRE FIGHTING MEASURES

Flammable properties	Combustible by WHMIS criteria. Heat may cause the containers to explode.
Extinguishing media	
Suitable extinguishing media	Foam. Dry chemical powder. Carbon dioxide (CO2). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Protection of firefighters	
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Vapors may travel considerable distance to a source of ignition and flash back.
Protective equipment for firefighters	Wear suitable protective equipment. In the event of fire, wear self-contained breathing apparatus.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Some of these materials, if spilled, may evaporate leaving a flammable residue.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Explosion data	
Sensitivity to static discharge	Not applicable.
Sensitivity to mechanical impact	Not applicable.
Hazardous combustion products	Smoke, fumes, and oxides of carbon
General fire hazards	Combustible liquid.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Keep unnecessary personnel away. Wear appropriate personal protective equipment. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the MSDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination. Contact local authorities in case of spillage to drain/aquatic environment.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	Extinguish all flames in the vicinity. Local authorities should be advised if significant spillages cannot be contained. The product is immiscible with water and will spread on the water surface. Large Spills: Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the MSDS.
Other information	Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Electrostatic Accumulation Hazard: Use proper grounding or bonding procedures. Additional information regarding the safe handling of products with static accumulation potential can be ordered from the American Petroleum Institute (API) request API Recommended Practice 2003 or from the National Fire Protection Association (NFPA) request NFPA 77. Do not ingest. Do not get this material on clothing. Avoid breathing mist or vapor. Avoid contact with skin and eyes. Avoid prolonged and repeated contact. Use only in well-ventilated areas. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash thoroughly after handling. Wash contaminated clothing before reuse. Practice good housekeeping. Handle and open container with care. Do not empty into drains.

Storage Do not handle or store near an open flame, heat or other sources of ignition. To maintain product quality, do not store in heat or direct sunlight. Use care in handling/storage. Keep containers closed when not in use. Keep away from food, drink and animal feedingstuffs. Store in original container. Store away from incompatible materials (see Section 10 of the MSDS). Store in a well-ventilated place. Room temperature - normal conditions. Do not allow material to freeze. If frozen, product may separate. Thaw completely at room temperature and stir thoroughly prior to use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits

ACGIH

	Type	Value
C9-C11 ISOALKANES (CAS 68551-16-6)	TWA	100 ppm

U.S. - OSHA

	Type	Value
C9-C11 ISOALKANES (CAS 68551-16-6)	PEL	500 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Engineering controls Ensure compliance with applicable exposure limits. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash fountain and emergency showers are recommended.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Do not get in eyes. Eye wash fountain is recommended.

Skin protection Wear suitable protective clothing and gloves.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection Use protective gloves made of: Nitrile.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance	CLEAR
Physical state	Liquid.
Form	Liquid.
Color	Not available.
Odor	Chemical
Odor threshold	Not available.
pH	Not Applicable
Vapor pressure	Not available.
Vapor density	Not available.
Boiling point	> 352 °F (> 177.78 °C) estimated
Melting point/Freezing point	Not available.
Solubility (water)	Insoluble
Specific gravity	0.76

Relative density	Not available.
Flash point	118 °F (47.8 °C) Tag Closed Cup
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	637 °F (336.11 °C)
Viscosity	1.12 cSt @ 38°C
Other data	
Flash point class	Combustible II
VOC ASTM D2369	100 %

10. Stability and Reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Avoid contact with oxidizers or reducing agents. Strong acids. Strong oxidizing substances.
Hazardous decomposition products	Smoke, fumes, and oxides of carbon
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological data

Components	Species	Test Results
C9-C11 ISOALKANES (CAS 68551-16-6)		
Acute		
Dermal		
LD50	Rabbit	15400 mg/kg
Inhalation		
LC50	Rat	12.4 mg/l, 4 hours
Oral		
LD50	Rat	34600 mg/kg
Chronic		
Inhalation		
NOEL	Rat	> 922 ppm, 6 hours

Acute effects	May be fatal if swallowed and enters airways. Expected to be a low hazard for usual industrial or commercial handling by trained personnel.
Sensitization	Not classified.
Chronic effects	Prolonged exposure may cause chronic effects.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation. Defatting, drying and cracking of skin.
Serious eye damage/irritation	Direct contact with eyes may cause temporary irritation.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive effects	This product is not expected to cause reproductive or developmental effects.
Teratogenicity	Not classified.
Symptoms and target organs	Aspiration may cause pulmonary edema and pneumonitis. Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Defatting of the skin.
Synergistic materials	Not applicable.
Further information	Symptoms may be delayed.

12. ECOLOGICAL INFORMATION

Ecotoxicological data

Components		Species	Test Results
C9-C11 ISOALKANES (CAS 68551-16-6)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	1000 mg/l, 48 hours
Fish	LC50	Rainbow Trout	1000 mg/l, 96 hours

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Environmental effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Aquatic toxicity Not available.

Persistence and degradability Not available.

Mobility in environmental media The product is immiscible with water and will spread on the water surface.

13. DISPOSAL CONSIDERATIONS

Disposal instructions Consult authorities before disposal. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport Information

TDG

UN number UN1268

UN proper shipping name PETROLEUM PRODUCTS, N.O.S. (C9-C11 ISOALKANES)

Transport hazard class(es)

Class 3

Subsidiary risk -

Packing group III

Environmental hazards Not available.

Special precautions for user Read safety instructions, MSDS and emergency procedures before handling.

Supplemental Information: This material may be transported by Road or Rail without applying some parts of Canadian TDG Regulations requirements if all criteria referenced in the paragraph 1.33 Class 3 Flammable Liquids: General Exemptions are met and it is in "non-bulk"packages (450 liters or less).

IATA

UN number UN1268

UN proper shipping name Petroleum products, n.o.s. (C9-C11 ISOALKANES)

Transport hazard class(es)

Class 3

Subsidiary risk -

Packing group III

Environmental hazards No.

ERG Code 3L

Special precautions for user Read safety instructions, MSDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed.

Cargo aircraft only Allowed.

IMDG

UN number UN1268

UN proper shipping name PETROLEUM PRODUCTS, N.O.S. (C9-C11 ISOALKANES)

Transport hazard class(es)

Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.

IATA; IMDG; TDG

15. REGULATORY INFORMATION

Canadian regulations This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status Controlled

WHMIS classification B3 - Combustible Liquids
D2B - Other Toxic Effects-TOXIC

WHMIS labeling

International Inventories

Country(s) or region	Inventory name	On inventory or exempt (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. OTHER INFORMATION

HMIS® ratings Health: 1
Flammability: 2
Physical hazard: 0

NFPA ratings Health: 1
Flammability: 2
Instability: 0

Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
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This data sheet contains changes from the previous version in section(s):	This document has undergone significant changes and should be reviewed in its entirety.