INKCUPS

NU-Life Pad Cleaner

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Material Name	:	**Nu-Life Pad Cleaner**
Other Names / Synonyms	:	Bio-ethanol
Recommended Use / Restrictions of Use	:	For use as a component in fuel. Fuel for use in suitably designed motor vehicles.

Supplier Inkcups Corporation

310 Andover Street
Danvers MA. 01923
USA

Telephone 978-646-8980
Emergency Number 1800-535-5053

2. HAZARDS IDENTIFICATION

GHS Classification : Flammable liquids, Category 2
Serious eye damage/eye irritation, Category 2A

GHS Label Elements
Symbol(s) :

Signal Words : Danger

Hazard Statement : PHYSICAL HAZARDS:
H225: Highly flammable liquid and vapour.

HEALTH HAZARDS:
H319: Causes serious eye irritation.

ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

GHS Precautionary Statements

Prevention	:	P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P233: Keep container tightly closed. P243: Take precautionary measures against static discharge. P280: Wear protective gloves/protective clothing/eye protection/face protection.
Storage	:	P403+P235: Store in a well-ventilated place. Keep cool.
Other Hazards which do not result in classification	:	Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Liquid evaporates quickly and can ignite leading to a flash fire, or an explosion in a confined space. Slightly irritating to respiratory system.

3. COMPOSITION/INFORMATION ON INGREDIENTS

III. INGREDIENTS	C.A.S.#	WT%	EXPOSURE LIMITS
Ethyl Alcohol	64-17-5	71	1000 PPM
Methyl Alcohol.	64-56-1	3	200 PPM
Methyl Isobutyl Keytone	108-10-1	2	50 PPM
Water	7732-18-5		N/A
Proprietary Ingredients			N/A

4. FIRST-AID MEASURES

Inhalation	:	Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
Skin Contact	:	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
Eye Contact	:	Flush eyes with water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision, or swelling persist transport to the nearest medical facility for additional treatment.
Ingestion	:	If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs

		spontaneously, keep head below hips to prevent aspiration.
Most Important Symptoms/Effects, Acute & Delayed	:	Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, or swelling. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death. Liver damage may be indicated by loss of appetite, jaundice (yellowish skin and eye colour), fatigue, bleeding or easy bruising and sometimes pain and swelling in the upper right abdomen.
Immediate medical attention, special treatment	:	Treat symptomatically. Persons on disulfiram (Antabuse®) therapy should be aware that the ethyl alcohol in this product is hazardous to them just as is alcohol from any source. Disulfiram reactions (vomiting, headache and even collapse) may follow ingestion of small amounts of alcohol and have also been described from skin contact.

5. FIRE-FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific hazards arising from Chemicals	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Ethanol burns with a smokeless blue flame that is not always visible in normal light.
Suitable Extinguishing Media	:	Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use water in a jet. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
Protective Equipment & Precautions for Fire Fighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).
Additional Advice	:	If possible remove containers from the danger zone. If the fire cannot be extinguished the only course of action is to evacuate

immediately. Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet. Observe the relevant local and international regulations. Avoid contact with skin, eyes and clothing. Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly. If contamination of sites occurs remediation may require specialist advice. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Take precautionary measures against static discharges.

Personal Precautions, Protective Equipment and Emergency Procedures	:	Do not breathe fumes, vapour. Do not operate electrical equipment. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas meter. Vapour can travel for considerable distances both above and below the ground surface. Underground services (drains, pipelines, cable ducts) can provide preferential flow paths.
Environmental Precautions	:	Take measures to minimise the effects on groundwater. Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Methods and Material for Containment and Cleaning Up	:	For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. Take precautionary measures against static discharges.
Additional Advice	:	Notify authorities if any exposure to the general public or the

environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. Vapour may form an explosive mixture with air.

7. HANDLING AND STORAGE

General Precautions	:	Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Air-dry contaminated clothing in a well-ventilated area before laundering. Prevent spillages. Turn off all battery operated portable electronic devices (examples include: cellular phones, pagers and CD players) before operating gasoline pump. Do not use as a cleaning solvent or other non-motor fuel uses. Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse. Vehicle fueling and vehicle workshop areas - Avoid inhalation of vapours and contact with skin, when filling or emptying a vehicle.
Precautions for Safe Handling	:	When using do not eat or drink. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Never siphon by mouth. Avoid exposure. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
Conditions for Safe Storage	:	Drum and small container storage: Keep containers closed when not in use. Drums should be stacked to a maximum of 3 high. Packaged product must be kept tightly closed and stored in a diked (bunded) well-ventilated area, away from, ignition sources and other sources of heat. Use properly labelled and closeable containers. Take suitable precautions when opening sealed containers, as pressure can build up during storage. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.
Product Transfer	:	Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. Electrostatic charges

may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<= 1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.

Recommended Materials : For containers, or container linings use mild steel, stainless steel. For container paints, use epoxy paint, zinc silicate paint.

Unsuitable Materials : PVC. Natural rubber.

Container Advice : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

Other Advice : Ensure that all local regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Ethanol	ACGIH	STEL	1,000 ppm		
	SG OEL	TWA	1,000 ppm	1,880 mg/m3	

Biological Exposure Index (BEI)

No biological limit allocated.

Appropriate Engineering Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Eye washes and showers for emergency use. Always observe good personal hygiene measures, such as washing hands after handling the

material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Firewater monitors and deluge systems are recommended. Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle.

Individual Protection Measures : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. All respiratory protection equipment and use must be in accordance with local regulations. If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours [boiling point >65 °C (149 °F)].

Hand Protection : Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognise that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time may be acceptable so long as appropriate maintenance and

		replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). When prolonged or frequent repeated contact occurs, Nitrile gloves may be suitable. (Breakthrough time of > 240 minutes.) For incidental contact/splash protection Neoprene, PVC gloves may be suitable.
Eye Protection	:	Chemical splash goggles (chemical monogoggles).
Protective Clothing	:	Chemical resistant gloves/gauntlets, boots, and apron (where risk of splashing).
Thermal Hazards	:	Not applicable.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/ Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Environmental Exposure Controls	:	Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Information on accidental release measures are to be found in section 6.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Clear. Colourless. Liquid.
Odour	:	Ethereal
Odour threshold	:	Data not available
pH	:	Not applicable
Initial Boiling Point and Boiling Range	:	78 °C / 172 °F
	:	
Flash point	:	13 - 16 °C / 55 - 61 °F
Upper / lower Flammability or Explosion limits	:	3.1 - 23.5 %(V)

Auto-ignition temperature	:	Data not available
Vapour pressure	:	67 hPa at 20 °C / 68 °F
Relative Density	:	Data not available
Density	:	ca. 0.8164 g/cm3 at 15 °C / 59 °F
Water solubility	:	at 20 °C / 68 °F Completely miscible.
Solubility in other solvents	:	Data not available
n-octanol/water partition coefficient (log Pow)	:	< 1.0
Dynamic viscosity	:	Data not available
Kinematic viscosity	:	< 1 mm2/s at 40 °C / 104 °F
Vapour density (air=1)	:	Data not available
Electrical conductivity	:	Electrical conductivity: > 10 000 pS/m
Evaporation rate (nBuAc=1)	:	Data not available
Flammability	:	Not applicable.

10. STABILITY AND REACTIVITY

Chemical stability	:	Reacts with strong oxidising agents. Reacts with strong acids. Stable under normal conditions of use.
Possibility of Hazardous Reactions	:	No hazardous reaction is expected when handled and stored according to provisions.
Conditions to Avoid	:	Avoid heat, sparks, open flames and other ignition sources.
Incompatible Materials	:	Strong oxidising agents. Strong acids.
Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.
Sensitivity to Static Discharge	:	Yes, in certain circumstances product can ignite due to static electricity.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological effects

Basis for Assessment	:	Information given is based on product data, a knowledge of the components and the toxicology of similar products.
Likely Routes of Exposure	:	Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Acute Oral Toxicity	:	Low toxicity: LD50 >2000 mg/kg , Rat
Acute Dermal Toxicity	:	Not expected to be a hazard.
Acute Inhalation Toxicity	:	Low toxicity by inhalation.
Skin corrosion/irritation	:	Slightly irritating to skin.
Serious eye damage/irritation	:	Causes serious eye irritation.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation to the respiratory system.
Respiratory or skin sensitisation	:	Not expected to be a sensitiser.
Aspiration Hazard	:	Not considered an aspiration hazard.
Germ cell mutagenicity	:	Not expected to be mutagenic.
Carcinogenicity	:	Not expected to be carcinogenic.

Material	:	**Carcinogenicity Classification**
Ethanol	:	ACGIH Group A3: Confirmed animal carcinogen with unknown relevance to humans.
Ethanol	:	GHS / CLP: No carcinogenicity classification

Reproductive and Developmental Toxicity	:	Causes foetotoxicity at doses which are maternally toxic. Ethanol, a component of this material, may cause birth defects and/or miscarriages.
Specific target organ toxicity - single exposure	:	Central nervous system (CNS). May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	:	Liver: can cause liver damage at chronic exposure to high concentrations.
Additional Information	:	Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

12. ECOLOGICAL INFORMATION

Basis for Assessment	:	Information given is based on product testing. Unless indicated

otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Acute Toxicity	:	Practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.
Fish	:	Practically non toxic: LL/EL/IL50 > 100 mg/l
Aquatic crustacea	:	Practically non toxic: LL/EL/IL50 > 100 mg/l
Algae/aquatic plants	:	Practically non toxic: LL/EL/IL50 > 100 mg/l
Microorganisms	:	Practically non toxic: LL/EL/IL50 > 100 mg/l
Chronic Toxicity		
Fish	:	NOEC/NOEL expected to be > 100 mg/l (based on modeled data)
Aquatic crustacea	:	NOEC/NOEL > 1.0 - <=10 mg/l
Mobility	:	Dissolves in water. If product enters soil, it will be highly mobile and may contaminate groundwater.
Persistence/degradability	:	Oxidises rapidly by photo-chemical reactions in air. Readily biodegradable.
Bioaccumulative Potential	:	Does not bioaccumulate significantly. Log Kow > =4

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand. Do not dispose into the environment, in drains or in water courses. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.
Container Disposal	:	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer. Do not pollute the soil, water or environment with the waste container.
Local Legislation	:	

14. TRANSPORT INFORMATION

Land (as per ADR classification): Regulated

Class	:	3
Packing group	:	II
Hazard indentification no.	:	33
UN number	:	1170
Danger label (primary risk)	:	3
Proper shipping name	:	ÉTHANOL (ETHYL ALCOHOL)
Environmentally Hazardous	:	No

IMDG

Identification number	UN 1170
Proper shipping name	ÉTHANOL (ETHYL ALCOHOL)
Class / Division	3
Packing group	II
Marine Pollutant:	No

IATA (Country variations may apply)

UN number	:	1170
Proper shipping name	:	Ethanol (Ethyl alcohol)
Class / Division	:	3
Packing group	:	II

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution Category	**:**	Z
Ship Type	**:**	Not applicable.
Product Name	**:**	Ethanol
Special Precaution	**:**	Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

16. OTHER INFORMATION

Hazard Statement

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

Additional Information : This document contains important information to ensure the safe storage, handling and use of this product. The information

		in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.
SDS Version Number	:	1.0
SDS Effective Date	:	06.12.2013
SDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
Uses and Restrictions	:	This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier. This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleanser.
SDS Distribution	:	The information in this document should be made available to all who may handle the product.
Key/Legend to Abbrevations used in this SDS	:	The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

Flam. Liq.	Flammable liquids
Eye Dam.	Serious eye damage/eye irritation

Key Literature References	:	The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).
Disclaimer	:	This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.