

PRODUCT NAME: SDAG-16 (95% VOL)	Page 1 of 6
MSDS NO: 2131	EFFECTIVE DATE: February 1, 2008

MANUFACTURED BY: **Commercial Alcohols**
 Bruce Energy Centre 275 Bloomfield Road 2 Chelsea Lane
 4th Concession Chatham, Brampton, Ontario
 Tiverton, Ontario Ontario L6T 3Y4
 N0G 2T0 N7M 5J5

EMERGENCY PHONE NUMBER: CANUTEC (613) 996-6666
 NON-EMERGENCY INFORMATION PHONE NUMBER: (905) 790-7500

TRANSPORTATION

PRIMARY CLASS: 3	CLASS NAME: FLAMMABLE LIQUID	UN#: 1987
SUBSIDIARY CLASS: NONE		
SHIPPING NAME: Alcohols, N.O.S. (ETHANOL)		

I. EMERGENCY AND FIRST AID PROCEDURE

<u>INGESTION</u>	<ul style="list-style-type: none"> Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing. DO NOT INDUCE VOMITING. Have victim drink about 250ml (8fl. oz.) of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Seek medical assistance immediately.
<u>SKIN</u>	<ul style="list-style-type: none"> Flush contaminated area with water for at least 20 minutes. Remove contaminated clothing under running water. Completely decontaminate clothing before re-use, or discard. If irritation occurs seek medical attention.
<u>INHALATION</u>	<ul style="list-style-type: none"> Remove victim to fresh air. Artificial respiration should be given if breathing has stopped and cardiopulmonary resuscitation if heart has stopped. Oxygen may be given if necessary. Seek medical attention immediately.
<u>EYES</u>	<ul style="list-style-type: none"> Immediately flush eyes with water for at least 20 minutes, holding the eyelids open. Seek medical attention immediately.
<u>NOTES TO PHYSICIAN</u>	<ul style="list-style-type: none"> This product contains approximately 1.4% v/v of iodine, a corrosive material. The basic use of this product is as tincture of iodine, a disinfecting agent. The principal manifestations of acute iodine poisoning are vomiting, collapse and coma.

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN.

PRODUCT NAME: **SDAG-16 (95% VOL)**

Page 2 of 6

MSDS NO: **2131**

EFFECTIVE DATE: February 1, 2008

II. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, °C

- 16 (Tag closed cup, ASTM D-56)

OTHER IMPORTANT DATA

COMPONENT	% V/V	FLAMMABLE LIMITS, % V/V		VAPOUR PRESSURE KPA AT 20°C	VAPOUR DENSITY (AIR = 1)	AUTOIGNITION POINT, °C
		LOWE R	UPPER			
(1) Ethyl Alcohol	95	3.3	19.0	5.87	1.6	422
(2) Iodine	*(1.2kg/100L)	N/App.	N/App.	0.004	9	N/App.
(3) Potassium Iodide	*(1.2kg/100L)	N/App.	N/App.	0.01	N/A	N/App.
Water	Balance					

* Iodine and potassium iodide contents may vary from 1.15 to 1.30kg/100L, depending on the concentration of the iodine and potassium iodide used as denaturants.

** At boiling point of iodine.

EXTINGUISHING MEDIA

- Apply alcohol-type or all-purpose-type foams by manufacturers' recommended techniques for large fires.
- Use carbon dioxide or dry chemical media for small fires.
- Water is generally unsuitable and may help to spread the fire.

SPECIAL FIREFIGHTING PROCEDURES

- Use water spray to cool fire-exposed containers and structures.
- Use water spray to disperse vapours; re-ignition is possible.
- Use self-contained breathing apparatus and protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS

- Vapours form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from handling point.

III. IDENTIFICATION

CHEMICAL NAME

SPECIALLY DENATURED ETHYL ALCOHOL
SDAG-16 (95% VOL)

CHEMICAL FAMILY

ALCOHOLS/INORGANIC
COMPOUNDS/INORGANIC SALTS

FORMULA

(1) CH₃ - CH₂ - OH (3) KI
(2) I₂

MOLECULAR WEIGHT

(1) 46.07 (3) 166.00
(2) 253.81

NOTE

- Numbers refer to Section II.

SYNONYMS

- None.

USE

- As a solvent in the manufacture of: pharmaceutical products for external use, tincture of iodine.

PRODUCT NAME: **SDAG-16 (95% VOL)**

Page 3 of 6

MSDS NO: **2131**

EFFECTIVE DATE: February 1, 2008

IV. PHYSICAL DATA

BOILING POINT, °C at 760mm Hg	78.2
FREEZING POINT, °C	Not Available
DENSITY, kg/L @ 20°C	0.8341
COEFFICIENT OF WATER/OIL DISTRIBUTION	Separates from oil
pH	Not Applicable
DISTILLATION RANGE, °C	78.2-82.6
MISCIBILITY IN WATER	Complete
% VOLATILES BY VOLUME	97.6
EVAPORATION RATE (butyl acetate = 1)	Not Available

APPEARANCE AND ODOUR

- Dark brown liquid with sharp characteristic odour.
- The odour threshold of ethyl alcohol is in the range of 0.1 to 5100 ppm, according to the Canadian Standards Association guide Z94.4-M1982. No data available for iodine and potassium iodide.

V. INGREDIENTS AND TOXICOLOGICAL DATA

INGREDIENT	% V/V	CAS NO.	TLV, ppm	LC50, ppm/4h.	LD50, mg/kg	LD50, mg/kg
				RAT, INHAL.	RAT, ORAL	RABBIT, SKIN
(1) Ethyl Alcohol	95	64-17-5	1000	31,623	7,060	20,000
(2) Iodine	*(1.2kg/100L)	7553-56-2	0.1**	N/A	14,000	N/A
(3) Potassium Iodide	*(1.2kg/100L)	7681-11-0	--	N/A	N/A	N/A
Water	Balance					

* Iodine and potassium iodide contents may vary from 1.15 to 1.30 kg/100L, depending on the concentration of the iodine and potassium iodide used as denaturants.

** TLV - Ceiling

REFERENCES: ACGIH (1988-1989), RTECS (1983).

VI. WHMIS CLASSIFICATION AND SYNERGISTIC MATERIALS

WHMIS CLASSIFICATION

- Flammable liquid, eye irritant (D-2B), corrosive material (iodine) (E).

SYNERGISTIC MATERIALS

- Ethanol with carbon tetrachloride, chloroform, bromotrichloromethane, dimethylnitrosamine, thioacetamide.

PRODUCT NAME: **SDAG-16 (95% VOL)**

Page 4 of 6

MSDS NO: **2131**

EFFECTIVE DATE: February 1, 2008

VII. HEALTH HAZARD DATA

<u>INGESTION</u>	<ul style="list-style-type: none"> • Ingestion of iodine may cause burning in the mouth, vomiting, abdominal pain, metallic taste, nausea, fever and diarrhoea. Death may result if quantity is large enough. • Ingestion of ethal may cause dizziness, faintness, drowsiness, decreased awareness and responsiveness, euphoria, abdominal discomfort, nausea, vomiting, staggering gait, lack of coordination and coma.
<u>SKIN ABSORPTION</u>	<ul style="list-style-type: none"> • Iodine is a corrosive material and may cause irritation of the skin and if quantity is large enough, chemical burns. Iodine is absorbed through the skin in small amounts from a tincture or from vapour applied to the skin. • Ethyl alcohol has no adverse effects with normal skin.
<u>INHALATION</u>	<ul style="list-style-type: none"> • Iodine is a severe respiratory tract irritant. Iodine vapours have reportedly caused pulmonary oedema in dogs. • High vapour concentrations of ethanol may cause a burning sensation in the throat and nose, stinging and watering of the eyes.
<u>SKIN CONTACT</u>	<ul style="list-style-type: none"> • Iodine is a potent sensitizer and may cause an allergic skin rash. In large quantities, iodine may cause skin irritation and even chemical burns.
<u>EYE CONTACT</u>	<ul style="list-style-type: none"> • Severe eye irritant. • Vapours can irritate eyes. • Eye damage from contact with liquid is reversible and proper treatment will result in healing within a few days. • Damage is usually mild to moderate conjunctivitis, seen mainly as redness of the conjunctiva.
<u>EFFECT OF REPEATED OVEREXPOSURE</u>	<ul style="list-style-type: none"> • Repeated exposure to iodine may lead to conjunctivitis, acne-like eruption of skin, rhinorrhea, anorexia and anaemia. • Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis.
<u>MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE</u>	<ul style="list-style-type: none"> • Repeated exposure to ethanol may exacerbate liver injury from other causes.
<u>OTHER EFFECTS OF OVEREXPOSURE</u>	<ul style="list-style-type: none"> • Persons with pre-existing disorders of the thyroid, lungs or kidneys, may be more susceptible to the effects of iodine.

PRODUCT NAME: **SDAG-16 (95% VOL)**

Page 5 of 6

MSDS NO: **2131**

EFFECTIVE DATE: February 1, 2008

VIII. REACTIVITY DATA

<u>STABILITY</u>	<ul style="list-style-type: none"> Stable
<u>CONDITIONS TO AVOID</u>	<ul style="list-style-type: none"> Sources of ignition
<u>INCOMPATIBILITY</u>	<ul style="list-style-type: none"> Iodine is compatible with acetaldehyde, acetylene, ammonia and ammonium Hydroxide. E Ethanol is incompatible with oxidizing agents.
<u>HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS</u>	<ul style="list-style-type: none"> Decomposition may lead to highly toxic fumes of K2O, iodine and iodine compounds. Burning can also produce carbon monoxide and/or carbon dioxide.
<u>HAZARDOUS POLYMERIZATION</u>	<ul style="list-style-type: none"> Will not occur
<u>CONDITIONS TO AVOID</u>	<ul style="list-style-type: none"> Avoid storing near reducing materials; iodine can react vigorously with such materials.

IX. SPILL OR LEAK PROCEDURES

<u>SPILL</u>	<ul style="list-style-type: none"> Contain spilled material. Provide adequate ventilation and protective equipment. Remove sources of heat, sparks or flames. Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal.
<u>WASTE DISPOSAL</u>	<ul style="list-style-type: none"> Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all federal, provincial and local government regulations.

X. SPECIAL PROTECTION INFORMATION

<u>RESPIRATORY PROTECTION</u>	<ul style="list-style-type: none"> In case of exposure to large vapour concentrations, for instance, in case of a large spill, an air-supplying respirator is recommended. For escape purposes, an approved organic vapour acid gas cartridge respirator may be used. The user should consult a respirator guide, such as the Canadian Standards Association's guide Z94.4-M1982.
<u>VENTILATION</u>	<ul style="list-style-type: none"> The ventilation system should be non-sparking, grounded and separate from other exhaust ventilation systems. Local ventilation is recommended when handling.
<u>PROTECTIVE GLOVES</u>	<ul style="list-style-type: none"> Neoprene, butyl or natural rubber.
<u>EYE PROTECTION</u>	<ul style="list-style-type: none"> Chemical resistant monogoggles when handling
<u>OTHER PROTECTIVE EQUIPMENT</u>	<ul style="list-style-type: none"> Eye bath, safety shower and other protective equipment as required.

PRODUCT NAME: **SDAG-16 (95% VOL)**

Page 6 of 6

MSDS NO: **2131**

EFFECTIVE DATE: February 1, 2008

XI. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

- Keep away from heat, sparks and flames.
- Keep container closed when not in use.
- Use with adequate ventilation.
- Avoid breathing vapours.
- Avoid contact with eyes and skin.
- Wash exposed skin thoroughly after handling.
- Take precautions to prevent static electricity build-up when transferring contents.

OTHER PRECAUTIONS

- Good personal hygiene practices are suggested, such as abstaining from eating, drinking and smoking in the workplace.

XII. MSDS PREPARATION

PREPARED BY Alcohol Quality Assurance, Technical Services and Regulatory Affairs Department

PHONE NUMBER (905) 790-7500

DATE: February 1, 2008

COMMERCIAL ALCOHOLS URGES EACH CUSTOMER OR RECIPIENT OF THIS MSDS TO STUDY IT CAREFULLY TO BECOME AWARE OF AND UNDERSTAND THE HAZARDS ASSOCIATED WITH THE PRODUCT. THE READER SHOULD CONSIDER CONSULTING REFERENCE WORKS OR INDIVIDUALS WHO ARE EXPERTS IN VENTILATION, TOXICOLOGY OR FIRE PREVENTION, AS NECESSARY OR APPROPRIATE TO USE AND UNDERSTAND THE DATA CONTAINED IN THIS MSDS.

TO PROMOTE SAFE USE AND HANDLING OF THIS PRODUCT, EACH CUSTOMER OR RECIPIENT SHOULD

- (1) NOTIFY EMPLOYEES, AGENTS, CONTRACTORS AND OTHERS WHO MAY USE THIS MATERIAL, OF THE INFORMATION IN THIS MSDS AND ANY OTHER INFORMATION REGARDING HAZARDS OR SAFETY,
- (2) FURNISH THIS SAME INFORMATION TO EACH CUSTOMER FOR THE PRODUCT, AND
- (3) REQUEST CUSTOMERS TO NOTIFY THEIR EMPLOYEES, CUSTOMERS, AND OTHER USERS OF THE PRODUCT OF THIS INFORMATION.