

PRODUCT NAME: **SDAG-2 (ANHYDROUS)**  
MSDS NO: **2169**PAGE 1 OF 9  
EFFECTIVE DATE: January 19, 2019**SECTION 1– IDENTIFICATION OF SUBSTANCE AND OF SUPPLIER****PRODUCT NAME: SDAG-2 (ANHYDROUS)****SYNONYMS:** Denatured Ethanol, Ethyl Alcohol denatured with Methanol**CHEMICAL FAMILY:** Alcohols**RECOMMENDED USE:** As a solvent in the manufacture of: adhesives and binders, cellulose coatings, cellulose intermediates and industrial collodions, cleaning solutions, cosmetics for external use, disinfectants, embalming fluids, explosives, fungicides, industrial detergents and soaps, inks, insecticides, insulin, natural and synthetic resin, coatings, petroleum products, photoengraving and roto-gravure dyes, photoengraving and roto-gravure solutions, photographic films and emulsions, plastics, polishes, sodium hydrosulphite, soldering flux, solvents and thinners, stains for wood and other materials, sterilizing and preserving solutions, transparent sheeting, .other miscellaneous.**RESTRICTIONS ON USE:** Refer to the alcohol control authority in country in which the product is to be used– Canada Revenue Agency (Excise) in Canada, US Tax and Trade Bureau in US etc.**SUPPLIER:** **Commercial Alcohols, a Trade name of GreenField Global Inc.**  
**6985 Financial Drive, Mississauga, Ontario, Canada L5N 0G3**  
Web page: <http://www.greenfield.com/>

NON-EMERGENCY INFORMATION PHONE NUMBER: (905) 790-7500

**EMERGENCY PHONE NUMBER: CANUTEC (613) 996-6666****SECTION 2– HAZARDS IDENTIFICATION****GHS label elements, including precautionary statements:****Signal Word:**

DANGER!

**Hazard statement(s)**

H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H315 + H320	Causes skin and eye irritation
H335	May cause respiratory irritation.
H370	May cause damage to organs.

**Precautionary statement(s)**

P501	Dispose of contents and container to an approved waste disposal plant.
P240	Ground/bond container and receiving equipment.
P337 + P313	If eye irritation persists: Get medical attention.

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.

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**(SECTION 2 HAZARDS IDENTIFICATION CONTINUED)**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

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

P233 Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool.

P243 Take precautionary measures against static discharge.

P241 Use explosion-proof electrical, ventilating, and lighting equipment.

P242 Use only non-sparking tools.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves and eye and face protection.

**GHS Classification(s)**

Flammable Liquids (Category 2)  
 Acute toxicity, Oral (Category 4)  
 Eye irritation (Category 2B)  
 Skin irritation (Category 2)  
 Specific target organ toxicity - single exposure (Category 1)  
 Specific target organ toxicity - single exposure (Category 3)

**Other hazards which do not result in classification:**
**Potential health Effects:**

Organ	Description
Eyes	Can cause eye irritation. Common symptoms include stinging, tearing, and redness.
Ingestion	Toxic if swallowed. Short term overexposure can cause drunkenness, depression of the central nervous system, nausea, vomiting, diarrhea, liver damage, and death.
Inhalation	Toxic if inhaled. Upper respiratory tract irritation, drowsiness and dizziness may occur.
Skin	Toxic if absorbed through the skin. May cause dermatitis by defatting the skin from prolonged or repeated contact.
Chronic	Effects of Repeated Overexposure: Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis. Overexposure to methanol may cause eye damage and liver or kidney damage. Other Health Hazards: Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the development of the fetal central nervous system and progression of fetal alcohol syndrome. Medical Conditions Aggravated by Overexposure: Repeated exposure to ethanol may aggravate previous liver condition. Skin contact may aggravate dermatitis.

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### SECTION 3– COMPOSITION AND INFORMATION ON INGREDIENTS

**CHEMICAL NAME:** SPECIALLY DENATURED ETHYL ALCOHOL SDAG-2 (ANHYDROUS)

**COMMON NAME/ SYNONYM:** DENATURED ALCOHOL, DENATURED ETHANOL, ETHANOL DENATURED

INGREDIENT	% VOLUME	CAS NO.	EINECS NO.
Ethyl Alcohol	90.9	64-17-5	200-578-6
(Methanol	9.1	67-56-1	200-659-6
Water	balance	7732-18-5	231-791-2

WITH METHANOL

### SECTION 4– FIRST AID MEASURES

<b><u>INHALATION</u></b>	<ul style="list-style-type: none"> <li>Remove victim to fresh air.</li> <li>Artificial respiration should be given if breathing has stopped and cardiopulmonary resuscitation if heart has stopped.</li> <li>Oxygen may be given if necessary.</li> <li>Seek medical attention immediately.</li> </ul>
<b><u>SKIN</u></b>	<ul style="list-style-type: none"> <li>Flush contaminated area with water for at least 20 minutes.</li> <li>Remove contaminated clothing under running water.</li> <li>Completely decontaminate clothing before re-use, or discard.</li> <li>If irritation occurs seek medical attention.</li> </ul>
<b><u>EYES</u></b>	<ul style="list-style-type: none"> <li>Immediately flush eyes with water for at least 20 minutes, holding the eyelids open.</li> <li>Seek medical attention immediately.</li> </ul>
<b><u>INGESTION</u></b>	<ul style="list-style-type: none"> <li>Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing.</li> <li>DO NOT INDUCE VOMITING.</li> <li>Have victim drink about 250ml (8fl. oz.) of water to dilute material in stomach.</li> <li>If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.</li> <li>Seek medical assistance.</li> </ul>
<b><u>NOTES TO PHYSICIAN</u></b>	<ul style="list-style-type: none"> <li>This product contains 4.8% v/v of methanol, a toxic substance having produced blindness and other serious effects on vision, as well as death. However, this product also contains the accepted antidote, ethanol (90.9 v/v).</li> </ul>

### SECTION 5– FIRE FIGHTING MEASURES

<b><u>EXTINGUISHING MEDIA</u></b>	<ul style="list-style-type: none"> <li>Apply alcohol-type or all-purpose-type foams by manufacturers' recommended techniques for large fires.</li> <li>Use carbon dioxide or dry chemical media for small fires.</li> <li>Water is generally unsuitable for large open pools of alcohol and may help to spread the fire.</li> </ul>
<b><u>UNUSUAL FIRE AND EXPLOSION HAZARDS</u></b>	<ul style="list-style-type: none"> <li>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.</li> </ul>
<b><u>SPECIAL FIRE FIGHTING PROCEDURES</u></b>	<ul style="list-style-type: none"> <li>Use water spray to cool fire-exposed containers and structures.</li> <li>Use water spray to disperse vapours; reignition is possible.</li> <li>Use self-contained breathing apparatus and protective clothing.</li> </ul>



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## SECTION 6– ACCIDENTAL RELEASE MEASURES

### SPILL

- Contain spilled material.
- Provide adequate ventilation. Provide adequate personnel protective equipment for responders.
- Remove sources of heat, sparks or flames.
- Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal. Such containers used to contain spilled material and absorbent should be sealed off, otherwise the collected alcohol will evaporate from them.

### WASTE DISPOSAL

- 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.

## SECTION 7– HANDLING AND STORAGE

### 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.

## SECTION 8– EXPOSURE CONTROLS/ PERSONNEL PROTECTION

### RESPIRATORY EQUIPMENT

- Up to 1000 ppm, an approved organic vapour cartridge respirator can be used.
- For concentrations above 1000 ppm, an air-supplying respirator is recommended.
- The user should consult a respirator guide, such as the Canadian Standards Association's guide Z94.4-M1982.

### VENTILATION

- The ventilation system should be non-sparking, grounded and separate from other exhaust ventilation systems.
- Local ventilation is recommended when handling.

### PROTECTIVE GLOVES

- Neoprene, butyl or natural rubber.

### EYE PROTECTION

- Chemical resistant monogoggles when handling

### OTHER PROTECTIVE EQUIPMENT

- Eye bath, safety shower and other protective equipment as required.

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**SECTION 9– PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE</b>	Colourless liquid
<b>ODOUR</b>	Typical lower alcohol odour
<b>ODOUR THRESHOLD</b>	Approximately 0.1 to 5100 ppm for ethyl alcohol and 4.3 to 5900 ppm for methanol, as reported in appendix 1 of the Canadian Standards Association guide Z94.4-M1982.
<b>PH</b>	Not Applicable
<b>MELTING./ FREEZING POINT</b>	Approximately minus 115 deg. C
<b>BOILING POINT RANGE</b>	76.8 - 77.4 deg. C
<b>FLASH POINT</b>	13 (Tag closed cup, ASTM D-56)
<b>EVAPORATION RATE</b>	1.7 (butyl acetate = 1)
<b>LOWER FLAMMABILITY LIMIT</b>	3.3% V/V for 100% Ethanol, 7.3% V/V for 100% Methanol
<b>UPPER FLAMMABILITY LIMIT</b>	19 % V/V for 100% Ethanol, 36 % V/V for 100% Methanol
<b>VAPOR PRESSURE</b>	44 mm Hg @ 20 deg. C, for 100% Ethanol
<b>VAPOUR DENSITY</b>	1.56 (air=1)
<b>RELATIVE DENSITY (LIQUID)</b>	0.7886 @ 20°C
<b>SOLUBILITY IN WATER</b>	Complete
<b>SOLUBILITY IN OIL- COEFFICIENT OF WATER/OIL DISTRIBUTION</b>	Separates from oil
<b>PARTITION COEFFICIENT N- OCTANOL/ WATER</b>	0.032 approx.
<b>AUTO- IGNITION TEMPERATURE</b>	Approx. 370 deg. C
<b>DECOMPOSITION TEMPERATURE</b>	Specific data not available
<b>VISCOSITY</b>	Approx. 1.35 cp @ 20 deg. C
<b>% VOLATILES BY VOLUME</b>	100
<b>CHEMICAL FORMULA</b>	Ethanol: C <sub>2</sub> H <sub>5</sub> -OH      Molecular weight: 46.07 Methanol: C-H <sub>3</sub> -OH      Molecular weight: 32.04 Water: H <sub>2</sub> O              Molecular weight :18.02

**SECTION 10– STABILITY AND REACTIVITY**

<b>CHEMICAL STABILITY/ REACTIVITY</b>	Stable
<b>CONDITIONS TO AVOID</b>	Sources of ignition
<b>POSSIBILITY OF HAZARDOUS REACTIONS/ INCOMPATIBILITIES</b>	Oxidizing materials
<b>HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS</b>	Burning can produce carbon monoxide and/or carbon dioxide and/or formaldehyde.
<b>HAZARDOUS POLYMERIZATION</b>	Will not occur
<b>CONDITIONS TO AVOID</b>	None currently known

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**SECTION 11– TOXICOLOGICAL INFORMATION**

INGREDIENT	% V/V	TLV, ppm	LC50, ppm/4h.	LD50, mg/kg	LD50, mg/kg
			RAT, INHAL.	RAT, ORAL	RABBIT, SKIN
(1) Ethyl Alcohol	90.9	1000	31,623	7,060	20,000
(2) Methanol	9.1	200	64,000	5,628	20,000
Water	Balance	NA	NA	NA	NA

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

**INGESTION**

- This product contains 4.8% v/v of methanol, a toxic substance known to have caused blindness and death.
- Following ingestion of SDAG-1 (ANHYDROUS), the symptoms include dizziness, faintness, drowsiness, decreased awareness and responsiveness, euphoria, abdominal discomfort, nausea, vomiting, staggering gait, lack of coordination and coma.

**SKIN ABSORPTION**

- Methanol can be absorbed through the skin in toxic and lethal amounts.
- Ethanol poses little risk in this respect.

**INHALATION**

- High vapour concentrations may cause a burning sensation in the throat and nose, stinging and watering in the eyes.
- At concentrations which cause irritation, dizziness, faintness, drowsiness, nausea and vomiting may occur.

**SKIN CONTACT**

- Mild irritant.
- Repeated or prolonged exposure may lead to dermatitis, erythema and scaling.

**EYE CONTACT**

- 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.

**EFFECTS OF LONG-TERM EX-**

- Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis.
- Long term exposure to methanol has been associated with headaches, giddiness, conjunctivitis, insomnia and impaired vision.

**MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE**

- Repeated exposure to ethanol may exacerbate liver injury produced from other causes.

**OTHER- REPRODUCTIVE TOXICITY OF ETHANOL WHEN CONSUMED AS A BEVERAGE DURING PREGNANCY**

- Ethanol has been identified in studies as a developmental toxicant when consumed as a beverage during pregnancy.

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## SECTION 12– ECOLOGICAL INFORMATION

### Ethyl Alcohol CAS 64-17-5

#### Ecotoxicity (aquatic and terrestrial, where available):

##### Acute Fish toxicity (ETHANOL)

LC50 / 96 HOUR Oncorhynchus mykiss (rainbow trout) > 10,000 mg/l  
LC50 / 96 HOUR Pimephales promelas (fathead minnow) > 13,400 mg/l

##### Toxicity to aquatic plants (ETHANOL)

Growth inhibition / 96 HOURS Chlorella vulgaris (Fresh water algae) 1,000 mg/l

##### Toxicity to microorganisms (ETHANOL)

Toxicity Threshold / Pseudomonas putida 6,500 mg/l  
Summary: Inhibition of cell multiplication begins.

##### Persistence and degradability:

Biodegradation is expected.

##### Bioaccumulative potential:

Biaccumulation is unlikely

##### Other adverse effects:

BOD: 740-840 mg/g

### Methyl Alcohol 67-56-1

#### Ecotoxicity (aquatic and terrestrial, where available):

##### Acute Fish Toxicity (METHANOL)

LC50 / 96 hours Lepomis macrochirus: 15,400 mg/L / LC50 / 96 hours Fathead minnow: 29,400 mg/L

##### Toxicity to Aquatic Plants (METHANOL)

EC50 / 96 hours Scenedesmus capricornutum: 22,000 mg/L

##### Toxicity to daphnia and other aquatic invertebrates

EC50/ 48 hours / Water flea - > 10,000.00 mg/L

##### Persistence and degradability:

72% - Readily biodegradable.

##### Bioaccumulative potential:

Bioaccumulation: Carp / 72d / BCF: 1.0

##### Other adverse effects:

BOD: 600 mg/g - 1120 mg/g COD: 1420 mg/g





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EFFECTIVE DATE: January 19, 2019**SECTION 13– DISPOSAL CONSIDERATIONS****SPILL**

- 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.

**WASTE  
DISPOSAL**

- 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.

**SECTION 14– TRANSPORT INFORMATION****CANADA: UN number:** 1986**UN proper shipping name** Alcohols, Flammable, TOXIC N.O.S. (ETHANOL)**Transport hazard class(es)** Primary Class 3(6.1)**Packing group (if applicable)** II**IMDG**

UN-Number: UN1986 Class: 3(6.1) Packing Group: II

EMS-No: F-E, S-D

Proper shipping name: ALCOHOLS, Flammable, TOXIC N.O.S. (ETHANOL, METHANOL)

Marine pollutant: No

**IATA**

UN-Number: 1986 Class: 3(6.1) Packing Group: II

Proper shipping name: Alcohols, Flammable, TOXIC N.O.S. (ethanol, methanol)

**SECTION 15– REGULATORY INFORMATION**

All ingredients are on the following inventories or are exempted from listing:

**Country Notification**

Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
USA	TSCA

**California Prop 65 Components**

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm when drunk as a beverage: (ETHYL ALCOHOL) CAS No. 64-17-5 Revision Date: December 11, 2009

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. METHANOL CAS-No. 67-56-1 Revision Date 2012-03-16



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## SECTION 16– OTHER INFORMATION

PREPARED BY: Alcohol QA, Technical Services, and Regulatory Affairs Department

PHONE NUMBER: (905) 790-7500



GREENFIELD GLOBAL 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,