

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>SDA 2B-2 190 Proof</b>
<b>Other means of identification</b>	None.
<b>Recommended use</b>	General purpose solvent.
<b>Recommended restrictions</b>	Use in accordance with manufacturer's recommendations.

### Manufacturer/Importer/Supplier/Distributor information

<b>Company Name</b>	Greenfield Global USA Inc.
<b>Address</b>	1101 Isaac Shelby Drive Shelbyville, KY 40065 USA
<b>Telephone</b>	502.232.7600
<b>Fax</b>	502.633.6100

<b>Company Name</b>	Greenfield Global USA Inc.
<b>Address</b>	58 Vale Road Brookfield, CT 06804 USA
<b>Telephone</b>	203.740.3471
<b>Fax</b>	203.740.3481

<b>Emergency phone number</b>	
<b>USA</b>	CHEMTREC: 1.800.424.9300 (CCN 17213)
<b>International</b>	CHEMTREC: +1.703.527.3887 (CCN 17213)

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 2
<b>Health hazards</b>	Serious eye damage/eye irritation	Category 2
	Reproductive toxicity	Category 2
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Danger
<b>Hazard statement</b>	Highly flammable liquid and vapor. Causes serious eye irritation. Suspected of damaging fertility or the unborn child.

### Precautionary statement

<b>Prevention</b>	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
<b>Response</b>	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.
<b>Storage</b>	Store in a well-ventilated place. Keep cool. Store locked up.

<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Ethyl alcohol	64-17-5	92.00 - 99.56
n-Hexane	110-54-3	0.38 - 0.43
Water	7732-18-5	0.00 - 7.50

**Composition comments** All concentrations are in percent by weight unless otherwise indicated. Components not listed are either non-hazardous or are below reportable limits.

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	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 irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Headache. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Highly flammable liquid and vapor.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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## Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. The product is completely soluble in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. 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 SDS. Avoid discharge into drains, water courses or onto the ground.

## Environmental precautions

## 7. Handling and storage

### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid contact with eyes. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethyl alcohol (CAS 64-17-5)	PEL	1900 mg/m <sup>3</sup> 1000 ppm
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m <sup>3</sup> 500 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Ethyl alcohol (CAS 64-17-5)	STEL	1000 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethyl alcohol (CAS 64-17-5)	TWA	1900 mg/m <sup>3</sup> 1000 ppm
n-Hexane (CAS 110-54-3)	TWA	180 mg/m <sup>3</sup> 50 ppm

### Biological limit values

#### ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
n-Hexane (CAS 110-54-3)	0.5 mg/l	2,5-Hexanedione, without hydrolysis	Urine	*

\* - For sampling details, please see the source document.

### Exposure guidelines

#### US - California OELs: Skin designation

n-Hexane (CAS 110-54-3)

Can be absorbed through the skin.

## US ACGIH Threshold Limit Values: Skin designation

n-Hexane (CAS 110-54-3)

Can be absorbed through the skin.

<b>Appropriate engineering controls</b>	Explosion-proof general and local exhaust ventilation. Good general ventilation 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. Provide eyewash station and safety shower.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Chemical goggles are recommended.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.
<b>Skin protection</b>	
<b>Other</b>	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
<b>Respiratory protection</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Chemical respirator with organic vapor cartridge.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Clear liquid; invisible vapor.

**Odor** Sweet. Alcohol-like.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** < -148 °F (< -100 °C)

**Initial boiling point and boiling range** 172.9 - 173.3 °F (78.3 - 78.5 °C)

**Flash point** 55.4 - 57.2 °F (13.0 - 14.0 °C) Closed Cup

**Evaporation rate** 3 - 3.3 (butyl acetate = 1)

**Flammability (solid, gas)** Not applicable.

### Upper/lower flammability or explosive limits

**Flammability limit - lower (%)** 3.3 % v/v (100% Ethyl alcohol)

**Flammability limit - upper (%)** 19 % v/v (100% Ethyl alcohol)

**Vapor pressure** Not available.

**Vapor density** Not available.

**Relative density** 6.61 - 6.8 lb/gal (60 °F (15.56 °C))

### Solubility(ies)

**Solubility (water)** Completely soluble.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** 685.4 °F (363 °C) (100% Ethyl alcohol)

**Decomposition temperature** Not available.

**Viscosity** Not available.

## Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

## 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.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Prolonged skin contact may cause temporary irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Headache. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing.

### Information on toxicological effects

**Acute toxicity** Not expected to be acutely toxic.

Components	Species	Test Results
Ethyl alcohol (CAS 64-17-5)		
<b>Acute</b>		
<b>Inhalation</b>		
Vapor		
LC50	Rat	117 - 125 mg/l, 4 Hours
<b>Oral</b>		
LD50	Rat	10470 mg/kg

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Causes serious eye irritation.

### Respiratory or skin sensitization

<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Not classifiable as to carcinogenicity to humans.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

### NTP Report on Carcinogens

Not listed.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

**Reproductive toxicity** Suspected of damaging fertility or the unborn child.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.  
**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**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.

Components	Species	Test Results
Ethyl alcohol (CAS 64-17-5)		
<b>Aquatic</b>		
Algae	EC10	Freshwater algae 11.5 mg/l, 72 hours
	EC50	Freshwater algae 275 mg/l, 72 hours
Fish		Marine water algae 1900 mg/l
	NOEC	Marine water algae 1580 mg/l
	LC50	Freshwater fish 11200 mg/l, 24 hours
Invertebrate	NOEC	Freshwater fish 250 mg/l
	EC50	Freshwater invertebrate 5012 mg/l, 48 hours
		Marine water invertebrate 857 mg/l, 48 hours
	NOEC	Freshwater invertebrate 9.6 mg/l, 10 days
Other		Marine water invertebrate 79 mg/l, 96 hours
	EC50	Lemna minor 4432 mg/l, 7 days
Other	NOEC	Lemna minor 280 mg/l, 7 days
	<b>Other</b>	
Micro-organisms	LC50	Micro-organisms 5800 mg/l, 4 hours
<b>Terrestrial</b>		
Plant	EC50	Terrestrial plant 633 mg/kg dw

**Persistence and degradability** No data is available on the degradability of this product.

### Bioaccumulative potential

**Partition coefficient n-octanol / water (log Kow)**

n-Hexane (CAS 110-54-3) 3.9

**Mobility in soil** The product is completely soluble in water.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**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** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

**UN number** UN1170  
**UN proper shipping name** Ethyl alcohol solution  
**Transport hazard class(es)**  
**Class** 3  
**Subsidiary risk** -

<b>Label(s)</b>	3
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	24, IB2, T4, TP1
<b>Packaging exceptions</b>	4b, 150
<b>Packaging non bulk</b>	202
<b>Packaging bulk</b>	242

#### IATA

<b>UN number</b>	UN1170
<b>UN proper shipping name</b>	Ethyl alcohol solution
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	3L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### IMDG

<b>UN number</b>	UN1170
<b>UN proper shipping name</b>	ETHYL ALCOHOL SOLUTION
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-E, S-D
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### **TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

#### **CERCLA Hazardous Substance List (40 CFR 302.4)**

n-Hexane (CAS 110-54-3) Listed.

#### **SARA 304 Emergency release notification**

Not regulated.

#### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not regulated.

**Toxic Substances Control Act (TSCA)** All components of the mixture on the TSCA 8(b) inventory are designated "active".

#### **Superfund Amendments and Reauthorization Act of 1986 (SARA)**

##### **SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Flammable (gases, aerosols, liquids, or solids)  
Serious eye damage or eye irritation  
Reproductive toxicity

##### **SARA 313 (TRI reporting)**

Not regulated.

## Other federal regulations

### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

n-Hexane (CAS 110-54-3)

### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act (SDWA)** Contains component(s) regulated under the Safe Drinking Water Act.

### FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Ethyl alcohol (CAS 64-17-5)

Low priority

## US state regulations

### US. Massachusetts RTK - Substance List

Ethyl alcohol (CAS 64-17-5)

n-Hexane (CAS 110-54-3)

### US. New Jersey Worker and Community Right-to-Know Act

Ethyl alcohol (CAS 64-17-5)

n-Hexane (CAS 110-54-3)

### US. Pennsylvania Worker and Community Right-to-Know Law

Ethyl alcohol (CAS 64-17-5)

n-Hexane (CAS 110-54-3)

### US. Rhode Island RTK

Ethyl alcohol (CAS 64-17-5)

n-Hexane (CAS 110-54-3)

### California Proposition 65



**WARNING:** This product can expose you to chemicals including n-Hexane, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### California Proposition 65 - CRT: Listed date/Developmental toxin

Toluene (CAS 108-88-3)

Listed: January 1, 1991

### California Proposition 65 - CRT: Listed date/Male reproductive toxin

n-Hexane (CAS 110-54-3)

Listed: December 15, 2017

### US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

n-Hexane (CAS 110-54-3)

## International Inventories

Country(s) or region	Inventory name	On inventory (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
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 04-January-2019

**Revision date** -



**Version #**  
**HMIS® ratings**

01  
Health: 2\*  
Flammability: 3  
Physical hazard: 0

**Disclaimer**

This product is subject to Greenfield Global USA Inc.'s terms and conditions, which can be found at <http://www.greenfield.com/tc-po-us/>. Greenfield cannot anticipate all conditions under which this information and this product, or the products of other manufacturers in combination with this product, may be used. The user is responsible for the proper and safe use, handling, storage and disposal of the product, and assumes liability for any loss, injury, damage or expense arising from any failure to do so. The data in this sheet is based on information and experience available at the time of writing.