



1. Identification

Product identifier	CDA 19-6, 200 Proof		
Other means of identification	None.		
Recommended use	General purpose solvent.		
Recommended restrictions	Use in accordance with manufacturer's recommendations.		
Manufacturer/Importer/Supplier/	Distributor information		
Company Name	Greenfield Global USA Inc.		
Address	1101 Isaac Shelby Drive		
	Shelbyville, KY 40065		
	USA		
Telephone	502.232.7600		
Fax	502.633.6100		
Company Name	Greenfield Global USA Inc. 58 Vale Road		
Address	Brookfield, CT 06804		
	USA		
Telephone	203.740.3471		
Fax	203.740.3481		
	200.140.0401		
Emergency phone number			
USA	CHEMTREC: 1.800.424.9300 (CCN 17213)		
International	CHEMTREC: +1.703.527.3887 (CCN 17213)		
2. Hazard(s) identification			
Physical hazards	Flammable liquids	Category 2	
-	•		
Health hazards	Serious eye damage/eye irritation	Category 2	
	Carcinogenicity	Category 2	
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3	
	Hazardous to the aquatic environment, long-term hazard	Category 3	
OSHA defined hazards	Not classified.		
Label elements			
	$\land \land \land$		

Signal word Hazard statement

Highly flammable liquid and vapor. Causes serious eye irritation. Suspected of causing cancer. Harmful to aquatic life with long lasting effects.

Precautionary statement Prevention

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. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Danger

Response	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.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Ethyl alcohol	64-17-5	95.2
2-Pentanone, 4-methyl-	108-10-1	3.8
Heptane	142-82-5	1

Composition comments All concentrations are in percent by volume.

4. First-aid measures

4. I list-alu measules	
Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.
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 irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Headache. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing.
Indication of immediate medical attention and special treatment needed	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.
General information	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse. Show this safety data sheet to the doctor in attendance.
5. Fire-fighting measures	
Suitable extinguishing media	Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	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.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	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.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	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.

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. Prevent product from entering drains.
	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. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
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. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Avoid release to the environment. 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	Туре	Value	
2-Pentanone, 4-methyl- (CAS 108-10-1)	PEL	410 mg/m3	
		100 ppm	
Ethyl alcohol (CAS 64-17-5)	PEL	1900 mg/m3	
		1000 ppm	
Heptane (CAS 142-82-5)	PEL	2000 mg/m3	
		500 ppm	
US. ACGIH Threshold Limit Values	5		
Components	Туре	Value	
2-Pentanone, 4-methyl- (CAS 108-10-1)	STEL	75 ppm	
	TWA	20 ppm	
Ethyl alcohol (CAS 64-17-5)	STEL	1000 ppm	
Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
US. NIOSH: Pocket Guide to Chem	ical Hazards		
Components	Туре	Value	
2-Pentanone, 4-methyl- (CAS 108-10-1)	STEL	300 mg/m3	
		75 ppm	
	TWA	205 mg/m3	
		50 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Туре	Value	
Ethyl alcohol (CAS 64-17-5)	TWA	1900 mg/m3	
		1000 ppm	
Heptane (CAS 142-82-5)	Ceiling	1800 mg/m3	
		440 ppm	
	TWA	350 mg/m3	
		85 ppm	

Biological limit values

ACGIH Biological Expos	ure Indices			
Components	Value	Determinant	Specimen	Sampling Time
2-Pentanone, 4-methyl- (CAS 108-10-1)	1 mg/l	Methyl isobutyl ketone	Urine	*
* - For sampling details, pl	ease see the source	e document.		
Appropriate engineering controls	Ventilation rate exhaust ventila exposure limits	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.		
Individual protection measur	res, such as persor	nal protective equipment	nt	
Eye/face protection	Chemical gogg	gles are recommended.		
Skin protection				
Hand protection				loves can be recommended by the glove oves. Frequent change is advisable.
Skin protection				
Other	Wear appropri	ate chemical resistant clo	othing. Use of a	n impervious apron is recommended.
Respiratory protection	limits (where a	pplicable) or to an accepted), an approved respiration	table level (in co	ntrations below recommended exposure ountries where exposure limits have not n. Respirator type: Chemical respirator with
Thermal hazards	Wear appropri	ate thermal protective clo	othing, when nee	cessary.
General hygiene considerations	personal hygie	ne measures, such as w	ashing after har	using do not smoke. Always observe good ndling the material and before eating, g and protective equipment to remove

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Not available.
Odor threshold	Not available.
рН	Not available.
Melting point/freezing point	-173.2 °F (-114 °C)
Initial boiling point and boiling range	172.4 °F (78 °C)
Flash point	57.2 °F (14.0 °C) Closed Cup
Evaporation rate	3 (100% Ethyl alcohol) (butyl acetate = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or exp	losive limits
Flammability limit - lower	3 % v/v (100% Ethyl alcohol)

(%)

Flammability limit - upper (%)	19 % v/v (100% Ethyl alcohol)
Vapor pressure	41.6 mm Hg
Vapor density	1.6 (air = 1)
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Completely soluble. (100% Ethyl alcohol)
Solubility temp. (water)	68 °F (20 °C)
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	685.4 °F (363 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Bulk density	6.79 lb/gal
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	Causes mild skin 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
2-Pentanone, 4-methyl- (0	CAS 108-10-1)	
Acute		
Dermal		
LD50	Rabbit	> 16000 mg/kg
Oral		
LD50	Rat	3200 mg/kg
Ethyl alcohol (CAS 64-17-	-5)	
Acute		
Inhalation		
Vapor		
LC50	Rat	117 - 125 mg/l, 4 Hours

Components	Species	Test Results
Oral		
LD50	Rat	10470 mg/kg
Heptane (CAS 142-82-5)		
<u>Acute</u>		
Inhalation		
Vapor		
LC50	Rat	> 29.3 mg/l, 4 Hours
Oral		
LD50	Rat	15000 mg/kg
Skin corrosion/irritation	Causes mild skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory or skin sensitizatio	n	
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to caus	e 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	Suspected of causing cancer.	
IARC Monographs. Overall	Evaluation of Carcinogenicity	
2-Pentanone, 4-methyl- (NTP Report on Carcinogens Not listed.		ossibly carcinogenic to humans.
	d Substances (29 CFR 1910.1001-10	53)
Not regulated.		
Reproductive toxicity	This product is not expected to caus	e reproductive or developmental effects.
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 harmfu	I. Prolonged exposure may cause chronic effects.
12. Ecological information	1	
Ecotoxicity	Harmful to aquatic life with long lasti	ng effects.
	Species	Test Results

Pentanone, 4-metnyl Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	3682 mg/l, 24 hours
Fish	LC50	Pimephales promelas	505 mg/l, 96 Hours
Chronic			
Crustacea	EC50	Daphnia magna	78 mg/l, 21 days
Fish	NOEC	Pimephales promelas	57 mg/l, 31 days
thyl alcohol (CAS 64-	17-5)		
Aquatic			
Algae	EC10	Freshwater algae	11.5 mg/l, 72 hours
	EC50	Freshwater algae	275 mg/l, 72 hours
		Marine water algae	1900 mg/l
	NOEC	Marine water algae	1580 mg/l
Fish	LC50	Freshwater fish	11200 mg/l, 24 hours
	NOEC	Freshwater fish	250 mg/l

Components		Species	Test Results	
Invertebrate	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	
		Marine water invertebrate	79 mg/l, 96 hours	
Other	EC50	Lemna minor	4432 mg/l, 7 days	
	NOEC	Lemna minor	280 mg/l, 7 days	
Other				
Micro-organisms	LC50	Micro-organisms	5800 mg/l, 4 hours	
Terrestial				
Plant	EC50	Terrestrial plant	633 mg/kg dw	
Persistence and degradability	No data is ava	ailable on the degradability of this product.		
Bioaccumulative potential				
Partition coefficient n-octar 2-Pentanone, 4-methyl- (CAS Heptane (CAS 142-82-5)		Kow) 1.31 4.66		
Mobility in soil	The product is	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 consideratio	ns			
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. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.			
Local disposal regulations	Dispose in ac	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	I			

DO	г	
	UN number	UN1170
	UN proper shipping name	Ethyl alcohol solution
	Transport hazard class(es)	
	Class	3
	Subsidiary risk	-
	Label(s)	3
	Packing group	II
	Environmental hazards	
	Marine pollutant	No.
	Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
	Special provisions	24, IB2, T4, TP1
	Packaging exceptions	4b, 150
	Packaging non bulk	202
	Packaging bulk	242
IAT	A	
	UN number	UN1170
	UN proper shipping name	Ethyl alcohol solution
	Transport hazard class(es)	
	Class	3

Subsidiary risk	-		
Packing group			
Environmental hazards	No.		
ERG Code	3L Road safety instructions SDS	and omorgonov pro	coduros boforo bandling
IMDG	Read safety instructions, SDS and emergency procedures before handling.		
UN number	UN1170		
UN proper shipping name	ETHYL ALCOHOL SOLUTION	1	
Transport hazard class(es)			
Class	3		
Subsidiary risk	-		
Packing group Environmental hazards	11		
Marine pollutant	No.		
EmS	F-E, S-D		
	Read safety instructions, SDS	and emergency pro	cedures before handling.
Transport in bulk according to	Not established.		e e e e e e e e e e e e e e e e e e e
Annex II of MARPOL 73/78 and the IBC Code			
15. Regulatory information			
• •			
US federal regulations	Standard, 29 CFR 1910.1200.	chemical" as defined	by the OSHA Hazard Communication
TSCA Section 12(b) Expe	ort Notification (40 CFR 707, s	Subpt. D)	
Not regulated. CERCLA Hazardous Sub	ostance List (40 CFR 302.4)		
2-Pentanone, 4-methy		Listed.	
Heptane (CAS 142-82	Heptane (CAS 142-82-5) Listed.		
SARA 304 Emergency re	lease notification		
Not regulated.			
	lated Substances (29 CFR 19	10.1001-1053)	
Not regulated.			
Toxic Substances Control Act (TSCA)	All components of the mixture	on the TSCA 8(b) in	ventory are designated "active".
Superfund Amendments and Rea	authorization Act of 1986 (SA	RA)	
SARA 302 Extremely hazard	ous substance		
Not listed.			
SARA 311/312 Hazardous chemical	Yes		
Classified hazard categories	Flammable (gases, aerosols, l Serious eye damage or eye in Carcinogenicity		
SARA 313 (TRI reporting)			
Chemical name	CAS	number	% by wt.
2-Pentanone, 4-methyl-	108	-10-1	3.8
Other federal regulations			
Clean Air Act (CAA) Section	112 Hazardous Air Pollutants	(HAPs) List	
2-Pentanone, 4-methyl- (C Clean Air Act (CAA) Section	CAS 108-10-1) 112(r) Accidental Release Pre	evention (40 CFR 6	8.130)
Not regulated.	.,	,	
Safe Drinking Water Act (SDWA)	Not regulated.		
Drug Enforcement Admi	nistration (DEA) List 2 Essa	stial Chamicals (24	CEP 1310 02(b) and 1310 04(f)(2) and

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

2-Pentanone, 4-methyl- (CAS 108-10-1) 6715

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

2-Pentanone, 4-methyl- (CAS 108-10-1)

DEA Exempt Chemical Mixtures Code Number

2-Pentanone, 4-methyl- (CAS 108-10-1)

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

2-Pentanone, 4-methyl- (CAS 108-10-1) Ethyl alcohol (CAS 64-17-5)

US state regulations

US. Massachusetts RTK - Substance List

2-Pentanone, 4-methyl- (CAS 108-10-1) Ethyl alcohol (CAS 64-17-5) Heptane (CAS 142-82-5)

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

2-Pentanone, 4-methyl- (CAS 108-10-1) Ethyl alcohol (CAS 64-17-5) Heptane (CAS 142-82-5)

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

2-Pentanone, 4-methyl- (CAS 108-10-1) Ethyl alcohol (CAS 64-17-5) Heptane (CAS 142-82-5)

US. Rhode Island RTK

2-Pentanone, 4-methyl- (CAS 108-10-1) Ethyl alcohol (CAS 64-17-5) Heptane (CAS 142-82-5)

California Proposition 65



WARNING: This product can expose you to 2-Pentanone, 4-methyl-, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

2-Pentanone, 4-methyl- (CAS 108-10-1) Listed: November 4, 2011

California Proposition 65 - CRT: Listed date/Developmental toxin

2-Pentanone, 4-methyl- (CAS 108-10-1) Listed: March 28, 2014

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

2-Pentanone, 4-methyl- (CAS 108-10-1)

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

22-January-2019

Low priority Low priority

35 %WV

6715

Revision date	-	
Version #	01	
HMIS® ratings	Health: 2* Flammability: 3 Physical hazard: 0	
Disclaimer	This product is subject to Greenfield Global USA Inc.'s terms and conditions, which can be four at http://www.greenfield.com/tc-po-us/. Greenfield cannot anticipate all conditions under which the products of other manufacturers in combination with this product.	

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.