

SAFETY DATA SHEET

1. Identification

Product identifier CDA 19-1, 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.
Address 58 Vale Road
 Brookfield, CT 06804
 USA
Telephone 203.740.3471
Fax 203.740.3481

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
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement Highly flammable liquid and vapor. Causes serious eye irritation. Suspected of causing cancer.

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. Wear protective gloves/protective clothing/eye protection/face protection.

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	90.48 - 95.24
2-Pentanone, 4-methyl-	108-10-1	3.81
Kerosene	8008-20-6	0.95
Water	7732-18-5	0.00 - 4.76

Composition comments All concentrations are in percent by weight unless otherwise indicated.

4. First-aid measures

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.

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 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. 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
2-Pentanone, 4-methyl- (CAS 108-10-1)	PEL	410 mg/m ³ 100 ppm
Ethyl alcohol (CAS 64-17-5)	PEL	1900 mg/m ³ 1000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2-Pentanone, 4-methyl- (CAS 108-10-1)	STEL	75 ppm	
	TWA	20 ppm	
Ethyl alcohol (CAS 64-17-5)	STEL	1000 ppm	
Kerosene (CAS 8008-20-6)	TWA	200 mg/m ³	Non-aerosol.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2-Pentanone, 4-methyl- (CAS 108-10-1)	STEL	300 mg/m ³ 75 ppm
	TWA	205 mg/m ³ 50 ppm
Ethyl alcohol (CAS 64-17-5)	TWA	1900 mg/m ³ 1000 ppm
Kerosene (CAS 8008-20-6)	TWA	100 mg/m ³

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
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2-Pentanone, 4-methyl- (CAS 108-10-1)	1 mg/l	Methyl isobutyl ketone	Urine	*
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* - For sampling details, please see the source document.

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

Kerosene (CAS 8008-20-6)

Can be absorbed through the skin.

Appropriate engineering controls

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 measures, such as personal protective equipment

Eye/face protection

Chemical goggles are recommended.

Skin protection

Hand protection

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.

Skin protection

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

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.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

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

Physical state

Liquid.

Form

Liquid.

Color

Colorless.

Odor

Not available.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

-173.2 °F (-114 °C)

Initial boiling point and boiling range

176 °F (80 °C)

Flash point

57.2 - 62.6 °F (14.0 - 17.0 °C) Closed Cup

Evaporation rate

3 (Butyl acetate = 1) (100% Ethyl alcohol)

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

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	6.7 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	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.
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Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
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Components	Species	Test Results
2-Pentanone, 4-methyl- (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		
<i>Vapor</i>		
LC50	Rat	117 - 125 mg/l, 4 Hours
Oral		
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**Respiratory sensitization** Not a respiratory sensitizer.**Skin sensitization** 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** Suspected of causing cancer.**IARC Monographs. Overall Evaluation of Carcinogenicity**

2-Pentanone, 4-methyl- (CAS 108-10-1) 2B Possibly carcinogenic to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Reproductive toxicity This product is not expected to cause 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 harmful. Prolonged exposure may cause chronic effects.**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
2-Pentanone, 4-methyl- (CAS 108-10-1)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	3682 mg/l, 24 hours
Fish	LC50	Pimephales promelas	505 mg/l, 96 Hours
<i>Chronic</i>			
Crustacea	EC50	Daphnia magna	78 mg/l, 21 days
Fish	NOEC	Pimephales promelas	57 mg/l, 31 days
Ethyl 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
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
Terrestrial			
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)

2-Pentanone, 4-methyl- (CAS 108-10-1) 1.31

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 -
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

IATA

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

IMDG

UN number UN1170
UN proper shipping name ETHYL ALCOHOL SOLUTION
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards
Marine pollutant No.
EmS F-E, S-D
Special precautions for user 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 applicable.

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)

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

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
2-Pentanone, 4-methyl-	108-10-1	3.81

Other federal regulations

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

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

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

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) 35 %WV

DEA Exempt Chemical Mixtures Code Number

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

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

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

US state regulations

US. Massachusetts RTK - Substance List

2-Pentanone, 4-methyl- (CAS 108-10-1)
Ethyl alcohol (CAS 64-17-5)
Kerosene (CAS 8008-20-6)

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

2-Pentanone, 4-methyl- (CAS 108-10-1)
Ethyl alcohol (CAS 64-17-5)
Kerosene (CAS 8008-20-6)

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

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

Ethyl alcohol (CAS 64-17-5)
Kerosene (CAS 8008-20-6)

US. Rhode Island RTK

2-Pentanone, 4-methyl- (CAS 108-10-1)
Ethyl alcohol (CAS 64-17-5)
Kerosene (CAS 8008-20-6)

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)
Kerosene (CAS 8008-20-6)

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)	No
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 15-February-2019

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 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.