MATREYA LLC
Lipids and Biochemicals

SDS-1722

SAFETY DATA SHEET

Section 1. Product and Company Identification

Product Name: 2-Hydroxy Methyl Ester Mixture
Product Number(s): 1722
Source: Synthetic
Product Use: This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives.

Matreya LLC
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24 Hour Emergency Number: Chemtrec
800-424-9300 (within United States) **703-527-3887** (International)

Section 2. Hazards Identification

Emergency Overview:
Target Organs: Cardiovascular system, Central nervous system, Peripheral nervous system, Kidney, Liver, Blood, Nerves, Heart, Eyes or Skin.
GHS Classification: Acute toxicity (oral), Category 4
Skin corrosion/irritation, Category 2
Serious eye damage/eye irritation, Category 2A
Carcinogenicity, Category 2
Specific target organ toxicity - repeated exposure, Category 2(Central nervous system, kidney, liver, respiratory)
Acute toxicity to the aquatic environment, Category 3

GHS Label Elements:
Pictogram(s):

Signal Word: **Danger**

Health Code	**Hazard statement(s):**
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H402	Harmful to aquatic life.

Prevention Code	Prevention Statement(s):
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear eye protection/face protection.
P281	Use personal protective equipment as required.

Response Code	Response Statement(s):
P301, P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth
P302, P352	IF ON SKIN: Wash with plenty of soup and water.
P332, P313	If skin irritation occurs: Get medical advice/ attention.
P305, P351, P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337, P313	If eye irritation persists: Get medical advice/attention.
P321	Specific treatment (see supplemental first aid instructions).
P308, P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P362	Take off contaminated clothing and wash before reuse.

Storage Code	Storage Statement(s):
P405	Store locked up.

Disposal Code	Disposal Statement(s):
P501	Disposal of contents/container n accordance to local/regional/national/international regulations.

Section 3. Composition/Information on Ingredients

Product Name	CAS Number	Percent
Chloroform	67-66-3	98.79%
Ethanol	64-17-5	0.53%
Methyl 2-Hydroxytetradecanoate	56009-40-6	0.1348%
Methyl 2-Hydroxyhexadecanoate	16742-51-1	0.1348%
Methyl 2-Hydroxyoctadecanoate	2420-35-1	0.1011%
Methyl 2-Hydroxyeicosanoate	16742-49-7	0.1011%
Methyl 2-Hydroxydocosanoate	13980-17-1	0.0674%
Methyl 2-Hydroxytricosanoate	118745-41-8	0.0674%
Methyl 2-Hydroxytetracosanoate	2433-95-6	0.0674%

Section 4. First Aid Measures

Inhalation:
Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. Consult a physician.
Skin:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Thoroughly wash or discard clothing and shoes before reuse.
Eyes:
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel.

Ingestion:
If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures

Suitable extinguishing media:
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards arising from the chemical:
Slight fire hazard when exposed to high heat; otherwise, practically not flammable.
Special protective actions for fire fighters:
Evacuate area and fight fire from a safe distance. Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.
Special protective equipment for fire fighters:
As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

Section 6. Accidental Release Measures

Personal precautions:
No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate personal protective equipment.

Environmental precautions:
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewer. Inform the relevant authorities if the product has caused environmental pollution (sewer, waterways, soil or air).

Methods and Materials for containment and cleaning up:
Stop leak if without risk. Prevent entry into sewers, water sources, basements or confines spaces. Contain and collect spillage with inert absorbent material and place in container for disposal according to local regulations. Call for assistance on disposal.

Section 7. Handling and Storage

Precautions for safe handling:
Avoid contact with eyes, skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Store in a tightly closed container. Keep sealed when not in use. Wear appropriate personal protective equipment.

Conditions for safe storage, including incompatibilities:
Recommended storage temperature: -20°C. Store in a tightly closed container. Separate from oxidizing materials.

Section 8. Exposure Controls/Personal Protection

Component	CAS Number	Type	Exposure Limits	Source
Chloroform	67-66-3	TWA (8Hr)	10 ppm	USA (ACGIH)
		TWA	50 ppm	USA (OSHA)
		TWA	2 ppm	Australia
		TWA	2 ppm	Belgium
		MAK	2.5 mg/m^3	Germany
		TWA	10 mg/m^3	Hungry
		MAC-TGG	5 mg/m^3	Netherlands
		VME	50 mg/m^3	France
		MAK	50 mg/m^3	Poland
		TWA	2 ppm	UK

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal Protective Equipment:

Respiratory protection:
Use only in a well ventilated area. Wear an appropriate NIOSH/MSHA approved air-purifying respirator. If warranted, wear a positive pressure air-supplied respirator in situations where there may be potential for airborne exposure.

Hand protection:
Chemical-resistant, impervious gloves should be worn at all times when handling chemical products. Recommended: Nitrile rubber

Eye protection:
Safety eyewear should be worn at all times to avoid exposure to liquid splashes, mists or dusts. Recommended: Splash goggles

Skin protection:
Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. Recommended: Lab coat

Section 9. Physical and Chemical Properties

Appearance:	Liquid
Odor:	Characteristic, ethereal odor
Odor threshold:	85-87 ppm
pH:	No data available
Melting/Freezing point:	-63.5°C (-83°F)
Initial boiling point and boiling range:	62ºC (144ºF)
Flash point:	No data available
Evaporation rate (Butyl acetate = 1):	11.6
Flammability (solid, gas):	No data available
Upper/Lower flammability or explosive limit:	No data available
Vapor pressure (mm Hg):	160 @ 20°C (68°F)
Vapor density (Air = 1):	4.1
Relative density (water = 1):	1.48
Solubility (ies):	0.8g/100g water @ 20°C (68°F)
Partition coefficient (n-octanol/water) as log Pow:	1.97
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

Section 10. Stability and Reactivity

Reactivity:
Stable under recommended storage conditions.

Chemical stability:
Stable under recommended storage conditions.

Possibility of hazardous reaction:
Under normal conditions of storage and use, hazardous reaction will not occur.

Conditions to avoid:
Light, heat, air and incompatibles.

Incompatible materials:
Strong caustics; chemically active metals such as aluminum or magnesium powder, sodium and potassium; strong oxidizers.

Hazardous decomposition products:
Toxic gases and vapors such as hydrogen chloride, chlorine, phosgene and carbon monoxide may be released in a fire involving chloroform.

Section 11. Toxicological Information

Acute toxicity:
Chloroform
LC50: Inhalation - Rat – 47,702 mg/m³ @ 4 hours exposure time
LD50: Oral - Rat – 908 mg/kg
LD50: Skin- Rabbit- >20 gm/kg

Skin corrosion / irritation:
Mild irritations. Drying out effect result in rough chapped skin. Danger of skin absorption.
10 mg/24 Hr open

Serious eye damage / irritation:
Moderate irritations
Eyes-rabbit- 20 mg/24 Hr

Respiratory or skin sensitization:
No data available

Germ cell mutagenicity:
No data available

Carcinogenicity:
No data available

Reproductive toxicity:
No data available

Specific target organ toxicity - single exposure:
No data available

Specific target organ toxicity - repeated exposure:
Category 2 repeated exposure may cause damage to cardiovascular system, central nervous system, peripheral nervous system, blood, liver, kidney, nerves, heart, eyes or skin through prolonged exposure.

Aspiration hazard:
No data available

Section 12. Ecological Information

Toxicity:
Fish

LC100	Leuciscus idus melantous (Carp)	176 mg/L	48 Hr
LC50	Danio rerio (Zebra Danio)	121 mg/L	96 Hr
LC50	Ictalurus punctatus (Channel catfish)	126 mg/L	24 Hr

Persistence and degradability:
This material is not expected to undergo biodegradation.

Bioaccumulative potential:
This material is not expected to significantly bioaccumalate.

Bioaccumulation:

Oncorhynchus mykiss (rainbow trout)	8 Hr	30 µCi/L
Oryzias latipes (Medaka, high-eyes)	9 day	107.5 mg/L

Mobility in soil:
This material is expected to have a moderate mobility in soil.

Other adverse effects:
This material is not expected to be toxic to aquatic life. The LC50/96-Hr value for fish are over 100 mg/L.

Section 13. Disposal Consideration

Disposal methods:
Observe all federal, state, and local environmental regulations.
Contact a licensed professional waste disposal service to dispose of this material.

Section 14. Transportation Information

Transportation quantity: This item shipped as an excepted quantity.

DOT (US)

UN Number:	1888
UN Proper shipping name:	Chloroform solution
Transportation hazard class(es):	6.1
Packaging group (if applicable):	III
Reportable Quantity (RQ):	10 lbs.
Environmental hazards:	No
Marine pollutant:	No

Land Transport ADR/RID

UN Number:	1888
UN Proper shipping name:	Chloroform solution
Transportation hazard class(es):	6.1
Packaging group (if applicable):	III
Environmental hazards:	No
Marine pollutant:	No

Maritime Transport IMDG

UN Number:	1888
UN Proper shipping name:	Chloroform solution
Transportation hazard class(es):	6.1
Packaging group (if applicable):	III
Environmental hazards:	No
Marine pollutant:	No

Air Transport ICAO/IATA

UN Number:	1888
UN Proper shipping name:	Chloroform solution
Transportation hazard class(es):	6.1
Packaging group (if applicable):	III
Environmental hazards:	No
Marine pollutant:	No

Section 15. Regulatory Information

DSL/NDSL status:

This product contains the following components that are on the Canadian DSL.

Component	**CAS Number**
Chloroform	67-66-3
Ethanol	64-17-5

TSCA:

This product contains the following components that are on the TSCA inventory.

Component	**CAS Number**
Chloroform	67-66-3
Ethanol	64-17-5

SARA 302 Components:

Component	**CAS Number**
Chloroform	67-66-3

SARA 313 Components:

Component	**CAS Number**
Chloroform	67-66-3

SARA 311/312 Hazards: Acute health hazard, chronic health hazard

California Hazardous Substance List:

Component	CAS Number
Chloroform	67-66-3

Delaware Air Quality Management List:

Component	CAS Number
Chloroform	67-66-3

Massachusetts Right To Know Components:

Component	CAS Number
Chloroform	67-66-3
Ethanol	64-17-5

Minnesota Right To Know Components:

Component	CAS Number
Chloroform	67-66-3
Ethanol	64-17-5

New Jersey Right To Know Components:

Component	CAS Number
Chloroform	67-66-3

New York Right To Know Components:

Component	CAS Number
Chloroform	67-66-3

Pennsylvania Right To Know Components:

Component	CAS Number
Chloroform	67-66-3
Ethanol	64-17-5

California Prop. 65 Components:

This product contains a chemical known to the state of California to cause cancer.

Component	CAS Number
Chloroform	67-66-3

Section 16. Other Information

Manufacturer Supplementary Notes:

The statements contained herein are based upon technical data that MATREYA LLC believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. MATREYA LLC MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. MATREYA LLC ASSUMES NO LIABILITY FOR ANY USE OF THESE CHEMICALS BY THE END USER.

Revision Summary:	10/17/2012	Version 1: New
	04/14/2014	Version 2: Revised product use statement.
	03/30/2015	Version 3: Changed company address.

Reference:

Centers for Disease Control and Prevention. "Chloroform RTECS." National Institute for Occupational Safety and Health. 2011. July 12, 2011. <http://www.cdc.gov/niosh-rtecs/MN8D8678.html>.

Kegley, S.E., Hill, B.R., Orme S., Choi A.H., “PAN Pesticide Database.” Pesticide Action Network, North America (San Francisco, CA, 2010), http:www.pesticideinfo.org.