SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : CP-MIO-100

Product code : SDS VEL-033

1.2. Recommended use and restrictions on use

Recommended use : Surface treatment

Restrictions on use : For professional use only

1.3. Supplier

Veltek Associates, Inc.
15 Lee Blvd
Malvern, PA 19355-1234 USA
Telephone: +1 610-644-8335 - Fax: +1 610-644-8336
E-mail: vai@sterile.com

In Canada distributed by:
Canada Clean Room (CCR)
20 Cope Dr.
Kanata, ON K2M 2V8, Canada
Telephone: (888)595-8070

1.4. Emergency telephone number

Emergency number : CARECHEM 24: 1-215-207-0061
1-866-928-0789 (toll free)
Canada: 1-800-579-7421 (toll free)
Mexico: +52-55-5004-8763

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable liquids Category 3	H226	Flammable liquid and vapor
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Specific target organ toxicity (repeated exposure) Category 1	H372	Causes damage to organs (thyroid gland) through prolonged or repeated exposure
Hazardous to the aquatic environment - Acute Hazard Category 2	H401	Toxic to aquatic life

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H226 - Flammable liquid and vapor
H319 - Causes serious eye irritation
H372 - Causes damage to organs (thyroid gland) through prolonged or repeated exposure
H401 - Toxic to aquatic life

Precautionary statements (GHS-US) : P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking.
P233 - Keep container tightly closed.

P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe vapors.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear eye protection, protective gloves, protective clothing.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
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.
P314 - Get medical advice/attention if you feel unwell.
P370+P378 - In case of fire: Use alcohol resistant foam, dry extinguishing powder, carbon dioxide (CO2), sand, Water spray to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of contents/container to an authorized waste collection point

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Ethanol	(CAS-No.) 64-17-5	40 - 55	Flam. Liq. 2, H225 Eye Irrit. 2A, H319
Water	(CAS-No.) 7732-18-5	43 - 53	Not classified
Sodium iodide	(CAS-No.) 7681-82-5	1 - 4	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Aquatic Acute 1, H400
Iodine	(CAS-No.) 7553-56-2	1 - 4	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 1, H372 Aquatic Acute 1, H400

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep at rest in a position comfortable for breathing. If symptoms develop, obtain medical attention.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If symptoms develop, obtain medical attention.

First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms develop, obtain medical attention.

First-aid measures after ingestion : Do NOT induce vomiting. Do not give an unconscious person anything to drink. Rinse mouth. Give 100 - 200 ml of water to drink. Obtain immediate medical attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after eye contact : Causes serious eye irritation.

Chronic symptoms : Causes damage to organs (thyroid gland) through prolonged or repeated exposure.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Alcohol resistant foam. Dry powder. Carbon dioxide. Sand. Water spray.

Unsuitable extinguishing media : Do not use water jet.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapor. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors. Fire may produce irritating, corrosive and/or toxic gases. Carbon monoxide. Carbon dioxide. Iodine.

Reactivity : Stable under recommended handling and storage conditions (see section 7).

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Keep upwind. Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Special protective equipment for fire fighters : As in any fire, wear self-contained breathing apparatus and full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Remove all sources of ignition. Ventilate area. Do not breathe vapors. Avoid contact with skin, eyes and clothing. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Remove all sources of ignition. Use only non-sparking tools. Ventilate area. Do not breathe vapors. Avoid breathing dust, mist or spray.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Use only non-sparking tools. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Provide good ventilation in process area to prevent formation of vapor. Do not breathe vapors. Avoid contact with skin, eyes and clothing.

Hygiene measures : Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Proper grounding procedures to avoid static electricity should be followed. Keep container closed when not in use. Store in a well-ventilated place. Keep cool.

Incompatible materials : Strong acids. Strong alkalis. Strong oxidizing agents. Aluminum.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ethanol (64-17-5)		
ACGIH	Local name	Ethanol
ACGIH	ACGIH STEL (ppm)	1000 ppm
ACGIH	Remark (ACGIH)	URT irr
ACGIH	Regulatory reference	ACGIH 2018

Ethanol (64-17-5)		
OSHA	OSHA PEL (TWA) (mg/m³)	1900 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA

Iodine (7553-56-2)		
ACGIH	Local name	Iodine
ACGIH	ACGIH TWA (ppm)	0.01 ppm
ACGIH	ACGIH STEL (ppm)	0.1 ppm
ACGIH	Remark (ACGIH)	Hypothyroidism; URT irr
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (Ceiling) (mg/m³)	1 mg/m³
OSHA	OSHA PEL (Ceiling) (ppm)	0.1 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA

8.2. Appropriate engineering controls

Appropriate engineering controls : Provide good ventilation in process area to prevent formation of vapor. Ensure exposure is below occupational exposure limits (where available).

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear chemically resistant protective gloves. The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves should be removed and replaced if there are any signs of degradation or breakthrough.

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Long sleeved protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Color : Red. Brown.
Odor : Iodine. Alcohol.
Odor threshold : No data available
pH : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : 78 °C (172.4 °F)
Flash point : 24 °C (76 °F)
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Not applicable.
Vapor pressure : < 58 mbar (20 °C)

Relative vapor density at 20 °C	:	No data available
Relative density	:	0.9 - 0.98 (Water = 1)
Solubility	:	Water: Miscible
Log Pow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	Not explosive.
Oxidizing properties	:	Not oxidizing.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended handling and storage conditions (see section 7).

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Strong acids. Strong alkalis. Strong oxidizing agents. Aluminum.

10.6. Hazardous decomposition products

Fire may produce irritating, corrosive and/or toxic gases. Carbon monoxide. Carbon dioxide. Iodine.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Ethanol (64-17-5)	
LD50 oral rat	10470 mg/kg
LC50 inhalation rat (mg/l)	117 - 125 mg/l - 4 Hours

Iodine (7553-56-2)	
LD50 dermal rabbit	1425 mg/kg
LC50 inhalation rat (mg/l)	4.588 mg/l - 4 Hours

Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Causes serious eye irritation.
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified

Ethanol (64-17-5)	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity	:	Not classified
Specific target organ toxicity – single exposure	:	Not classified
Specific target organ toxicity – repeated exposure	:	Causes damage to organs (thyroid gland) through prolonged or repeated exposure.

Aspiration hazard : Not classified

Symptoms/effects after eye contact : Causes serious eye irritation.

Chronic symptoms : Causes damage to organs (thyroid gland) through prolonged or repeated exposure.

SECTION 12: Ecological information

12.1. Toxicity

Ethanol (64-17-5)	
LC50 fish	11200 mg/l (calculated value)
EC50 Daphnia	5012 mg/l (calculated value) (freshwater)
EC50 Daphnia 2	857 mg/l (calculated value) (marine water)

Sodium iodide (7681-82-5)	
LC50 fish	> 100 mg/l - 96 Hours (Danio rerio)
LOEC (acute)	66 mg/l (Microcystis aeruginosa)

Iodine (7553-56-2)	
LC50 fish	1.67 mg/l - 96 Hours (Oncorhynchus mykiss)
EC50 Daphnia	0.55 - 0.59 mg/l - 48 Hours (Daphnia magna)

12.2. Persistence and degradability

CP-MIO-100	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

CP-MIO-100	
Bioaccumulative potential	Not established.

Ethanol (64-17-5)	
Bioconcentration factor (BCF REACH)	3

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

GWPmix comment : No known effects from this product.

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1170 Ethanol solutions, 3, III

UN-No.(DOT) : UN1170

Proper Shipping Name (DOT) : Ethanol solutions

Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Packing group (DOT) : III - Minor Danger

Hazard labels (DOT)	:	3 - Flammable liquid

DOT Packaging Non Bulk (49 CFR 173.xxx)	:	203
DOT Packaging Bulk (49 CFR 173.xxx)	:	242
DOT Special Provisions (49 CFR 172.102)	:	24, B1, IB3, T2, TP1
DOT Packaging Exceptions (49 CFR 173.xxx)	:	4b;150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	220 L
DOT Vessel Stowage Location	:	A
Emergency Response Guide (ERG) Number	:	127
Other information	:	No supplementary information available.

Transportation of Dangerous Goods

Transport document description	:	UN1170 ETHANOL SOLUTION, 3, III
UN-No. (TDG)	:	UN1170
Proper Shipping Name (Transportation of Dangerous Goods)	:	ETHANOL SOLUTION
TDG Primary Hazard Classes	:	3 - Class 3 - Flammable Liquids
Packing group	:	III - Minor Danger
TDG Special Provisions	:	150
Explosive Limit and Limited Quantity Index	:	5 L
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	:	60 L

Transport by sea

Transport document description (IMDG)	:	UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, III
UN-No. (IMDG)	:	1170
Proper Shipping Name (IMDG)	:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Class (IMDG)	:	3 - Flammable liquids
Packing group (IMDG)	:	III - substances presenting low danger
Limited quantities (IMDG)	:	5 L

Air transport

Transport document description (IATA)	:	UN 1170 Ethanol solution, 3, III
UN-No. (IATA)	:	1170
Proper Shipping Name (IATA)	:	Ethanol solution
Class (IATA)	:	3 - Flammable Liquids
Packing group (IATA)	:	III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

CP-MIO-100	
SARA Section 311/312 Hazard Classes	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Health hazard - Serious eye damage or eye irritation Health hazard - Specific target organ toxicity (single or repeated exposure)

Ethanol (64-17-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Sodium iodide (7681-82-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Iodine (7553-56-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

Sodium iodide (7681-82-5)
Listed on the Canadian DSL (Domestic Substances List)

Iodine (7553-56-2)
Listed on the Canadian DSL (Domestic Substances List)

Water (7732-18-5)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Ethanol (64-17-5)
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Ethanol (64-17-5)
U.S. - New Jersey - Right to Know Hazardous Substance List

Iodine (7553-56-2)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 06/19/2018

Data sources : US OSHA HazCom (GHS) 25 May 2012.

Other information : None.

Full text of H-phrases:

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life

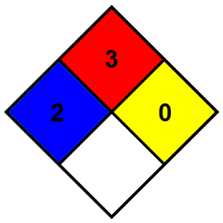
Abbreviations and acronyms:

	ACGIH (American Conference of Government Industrial Hygienists)
	ATE (Acute Toxicity Estimate)
	CAS (Chemical Abstracts Service) number
	DNEL (Derived No Effect Level)
	EC50 (Effective Concentration 50%)
	IARC (International Agency for Research on Cancer)
	IATA (International Air Transport Association)
	IMDG (International Maritime Dangerous Goods Code)
	IMO (International Maritime Organisation)
	LC50 (Lethal Concentration 50%)
	LD50 (Lethal Dose 50%)
	OECD (Organisation for Economic Co-operation and Development)
	OSHA (Occupational Safety and Health Administration) (US)
	PBT (Persistent, Bioaccumulative and Toxic)
	PNEC (Predicted No Effect Concentration)
	STEL (Short Term Exposure Limit)
	TSCA (Toxic Substances Control Act) (US)
	TWA (Time Weighted Average)
	UNxxxx (Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods)
	vPvB (very Persistent and very Bioaccumulative)

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

* - Chronic (long-term) health effects may result from repeated overexposure

Flammability : 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Indication of changes:

Section	Changed item	Change	Comments
1	Identification	Modified	
2	Hazards identification	Modified	
3	Composition/Information on ingredients	Modified	
4	First aid measures	Modified	
5	Fire fighting measures	Modified	
6	Accidental release measures	Modified	
7	Handling and storage	Modified	
11	Toxicological information	Modified	
12.	Ecological information	Modified	
14	Transport information	Modified	

SDS US (GHS HazCom 2012)