

## Safety Data Sheet



according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: July 15, 2019

### 1 Identification

- **Product identifier**
- **Trade name:** Mango 45% Nicotine
- **Recommended use and restriction on use**
- **Recommended use:** Nicotine solution for vaping
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
LIQUID LABS LLC  
Address: 644 Cross Street, Unit 28  
Lakewood, NJ 08701  
USA  
848-240-6716
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

### 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Acute Tox. 2 H300 Fatal if swallowed.  
Acute Tox. 2 H310 Fatal in contact with skin.  
Acute Tox. 2 H330 Fatal if inhaled.  
Skin Sens. 1 H317 May cause an allergic skin reaction.
- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**  
  
GHS06 GHS07
- **Signal word:** Danger
- **Hazard statements:**  
H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.  
H317 May cause an allergic skin reaction.
- **Precautionary statements:**  
P260 Do not breathe mist/vapors/spray.  
P262 Do not get in eyes, on skin, or on clothing.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P280 Wear protective gloves / protective clothing.  
P284 [In case of inadequate ventilation] wear respiratory protection.  
P302+P352 If on skin: Wash with plenty of soap and water.

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- P310 Immediately call a poison center/doctor.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P330 Rinse mouth.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

**3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

· **Components:**

54-11-5	nicotine ☠ Acute Tox. 2, H300; Acute Tox. 2, H310; Acute Tox. 2, H330	45%
57-55-6	Propylene glycol	20-40%
56-81-5	Glycerol	10-30%
64-17-5	Ethanol 🔥 Flam. Liq. 2, H225 👁 Eye Irrit. 2A, H319	<1%
8008-57-9	Orange oil 🔥 Flam. Liq. 3, H226 ☠ Asp. Tox. 1, H304 👁 Skin Irrit. 2, H315; Skin Sens. 1, H317	<0.25%
3658-77-3	4-Hydroxy-2,5-dimethyl-3(2H)-furanone ☠ Skin Corr. 1B, H314; Eye Dam. 1, H318 ☠ Acute Tox. 4, H302; Skin Sens. 1A, H317	<0.25%

· **Additional information:** For the wording of the listed Hazard Statements, refer to section 16.

**4 First-aid measures**

· **Description of first aid measures**

· **After inhalation:**

- Supply fresh air; consult doctor in case of complaints.
- Provide oxygen treatment if affected person has difficulty breathing.

· **After skin contact:**

- Take off contaminated clothing.
- Immediately wash with water and soap and rinse thoroughly.
- Seek medical treatment in case of complaints.

· **After eye contact:**

- Remove contact lenses if worn.
- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

- Rinse out mouth and then drink plenty of water.

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Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed:**

Breathing difficulty

Coughing

Dizziness

Thirst

Cramp

Profuse sweating

Nausea

Vision disorders.

Contraction of pupils

· **Danger:**

Vapors have narcotic effect.

Fatal if swallowed or in contact with skin.

Fatal if inhaled.

Danger of disturbed cardiac rhythm.

· **Indication of any immediate medical attention and special treatment needed:**

May produce a cholinergic / nicotinic effect.

Contains nicotine. Consult literature for specific antidotes.

Contains Orange oil, 4-Hydroxy-2,5-dimethyl-3(2H)-furanone. May produce an allergic reaction.

Medical supervision for at least 48 hours.

Monitor circulation, possible shock treatment.

If necessary oxygen respiration treatment.

If medical advice is needed, have product container or label at hand.

### 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

The product is not flammable.

Use fire fighting measures that suit the environment.

· **For safety reasons unsuitable extinguishing agents:** No relevant information available.

· **Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

Wear fully protective suit.

### 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Particular danger of slipping on leaked/spilled product.

Wear protective equipment. Keep unprotected persons away.

Use respiratory protective device against the effects of fumes/dust/aerosol.

· **Environmental precautions**

Avoid release to the environment.

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Inform respective authorities in case of seepage into water course or sewage system.

· **Methods and material for containment and cleaning up**

Towel or mop up material and collect in a suitable container.

For larger spills, add sawdust, chalk or other inert binding material, then sweep up and discard.

Send for recovery or disposal in suitable receptacles.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage**

· **Handling**

· **Precautions for safe handling:**

Use only in well ventilated areas.

Avoid contact with the eyes and skin.

Avoid breathing mist, vapors, or spray.

Keep out of reach of children.

Open and handle receptacle with care.

· **Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:**

Store in cool, dry conditions in well sealed receptacles.

· **Information about storage in one common storage facility:** Store away from foodstuffs.

· **Specific end use(s)** No relevant information available.

**8 Exposure controls/personal protection**

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**54-11-5 nicotine**

PEL (USA)	Long-term value: 0.5 mg/m <sup>3</sup> Skin
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REL (USA)	Long-term value: 0.5 mg/m <sup>3</sup> Skin
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TLV (USA)	Long-term value: 0.5 mg/m <sup>3</sup> Skin
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EL (Canada)	Long-term value: 0.5 mg/m <sup>3</sup> Skin
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EV (Canada)	Long-term value: 0.5 mg/m <sup>3</sup> Skin
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LMPE (Mexico)	Long-term value: 0.5 mg/m <sup>3</sup> PIEL
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**57-55-6 Propylene glycol**

WEEL (USA)	Long-term value: 10 mg/m <sup>3</sup>
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EV (Canada)	Long-term value: 155* 10** mg/m <sup>3</sup> , 50* ppm
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	*vapour and aerosol; **aerosol only
<b>56-81-5 Glycerol</b>	
PEL (USA)	Long-term value: 15* 5** mg/m <sup>3</sup> mist; *total dust **respirable fraction
TLV (USA)	TLV withdrawn-insufficient data human occup. exp.
EL (Canada)	Long-term value: 10* 3** mg/m <sup>3</sup> *mist, total; **mist, respirable
EV (Canada)	Long-term value: 10 mg/m <sup>3</sup>
LMPE (Mexico)	Long-term value: 10 mg/m <sup>3</sup>
<b>64-17-5 Ethanol</b>	
PEL (USA)	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
REL (USA)	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
TLV (USA)	Short-term value: 1880 mg/m <sup>3</sup> , 1000 ppm
EL (Canada)	Short-term value: 1000 ppm
EV (Canada)	Long-term value: 1,900 mg/m <sup>3</sup> , 1,000 ppm
LMPE (Mexico)	Long-term value: 1000 ppm A3

· **Exposure controls**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.  
 Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing.  
 Wash hands before breaks and at the end of work.  
 Avoid contact with the eyes and skin.  
 Avoid breathing mist, vapors, or spray.

· **Engineering controls:** Provide adequate ventilation.

· **Breathing equipment:**

Suitable respiratory protective device recommended.  
 Wear appropriate NIOSH respirator when ventilation is inadequate and occupational exposure limits are exceeded.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment**

No relevant information available.

· **Risk management measures** No relevant information available.

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**9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **Appearance:**

**Form:** Liquid  
    **Color:** According to product specification

· **Odor:** Characteristic  
· **Odor threshold:** Not determined.

· **pH-value:** Not determined.  
· **Melting point/Melting range:** Not determined.  
· **Boiling point/Boiling range:** Not determined.

· **Flash point:** >94 °C (>201.2 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits**

**Lower:** Not determined.  
    **Upper:** Not determined.

· **Oxidizing properties:** Non-oxidizing.

· **Vapor pressure:** Not determined.

· **Density:**

**Relative density:** Not determined.  
    **Vapor density:** Not determined.  
    **Evaporation rate:** Not determined.

· **Solubility in / Miscibility with**

**Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity**

**Dynamic:** Not determined.  
    **Kinematic:** Not determined.

· **Other information** No relevant information available.

**10 Stability and reactivity**

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** Reacts with strong oxidizing agents.
- **Conditions to avoid** Keep away from oxidising agents.
- **Incompatible materials** Oxidizers

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**Hazardous decomposition products** Carbon monoxide and carbon dioxide (Cont'd. of page 6)

**11 Toxicological information**

**Information on toxicological effects**

**Acute toxicity:**

Fatal if inhaled.

Fatal if swallowed or in contact with skin.

**LD/LC50 values that are relevant for classification:**

**(Acute Toxicity Estimate)**

Oral	LD50	6-15 mg/kg (Acute Toxicity Estimate - Oral)
Dermal	LD50	100-200 mg/kg (Acute Toxicity Estimate - Dermal)
Inhalative	LC50/4h	0.25-0.50 mg/l (Acute Toxicity Estimate - Inhalation)

**54-11-5 nicotine**

Oral	LD50	5 mg/kg (Acute Toxicity Estimate - Oral)
Dermal	LD50	70 mg/kg (Acute Toxicity Estimate - Dermal)
Inhalative	LC50/4h	0.19 mg/l (Acute Toxicity Estimate - Inhalation)

**3658-77-3 4-Hydroxy-2,5-dimethyl-3(2H)-furanone**

Oral	LD50	1660 mg/kg (rat)
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**Primary irritant effect:**

**On the skin:** Based on available data, the classification criteria are not met.

**On the eye:** Based on available data, the classification criteria are not met.

**Sensitization:**

Contains Orange oil, 4-Hydroxy-2,5-dimethyl-3(2H)-furanone. May produce an allergic reaction.

**IARC (International Agency for Research on Cancer):**

64-17-5	Ethanol	1
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**NTP (National Toxicology Program):**

None of the ingredients are listed.

**OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

**Probable route(s) of exposure:**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Carcinogenicity:** Based on available data, the classification criteria are not met.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**STOT-single exposure:** Based on available data, the classification criteria are not met.

**STOT-repeated exposure:** Based on available data, the classification criteria are not met.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

**12 Ecological information**

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- **Toxicity**
- **Aquatic toxicity**  
Toxic to aquatic life with long lasting effects.

**54-11-5 nicotine**



EC50	3 mg/kg (daphnia)
EC50	11-37 mg/l (Desmodesmus subspicatus)

- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Other adverse effects** No relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**  
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

· <b>UN-Number</b>	
· <b>DOT, ADR/RID/ADN, IMDG, IATA</b>	UN3144
· <b>UN proper shipping name</b>	
· <b>DOT, ADR/RID/ADN, IMDG, IATA</b>	NICOTINE PREPARATION, LIQUID, N.O.S. (NICOTINE)
· <b>Transport hazard class(es)</b>	
· <b>DOT</b>	
	
· <b>Class</b>	6.1
· <b>Label</b>	6.1
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· <b>ADR/RID/ADN</b>	
	
· <b>Class</b>	6.1 (T1)
· <b>Label</b>	6.1

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· **IMDG, IATA**



· **Class** 6.1  
 · **Label** 6.1

· **Packing group**

· **DOT, ADR/RID/ADN, IMDG, IATA** II

· **Environmental hazards**

· **Marine pollutant:**



Yes

· **Special precautions for user**

Warning: Toxic substances

· **Danger code (Kemler):**

60

· **EMS Number:**

F-A,S-A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **DOT**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 1 L each.

Labeling as a Marine Pollutant is only required for bulk single package shipments. Bulk packaging consists of a maximum capacity of greater than 450 L (119 gallons) for a liquid and a maximum net mass greater than 400 kg (882 pounds) for a solid. (See 171.4(c))

· **ADR/RID/ADN**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 1 L each.

Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to provisions relevant to marine pollutants. (See 5.2.1.8.1)

· **IMDG**



Limited Quantity for packages less than 30 kg gross and inner packagings less than 1 L each.

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Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to provisions relevant to marine pollutants. (See 2.10.2.7)

· IATA



Limited Quantity for packages less than 30 kg gross and inner packagings less than 0.1 L each / 1 L net.

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

54-11-5 | nicotine

· **Section 313 (Specific toxic chemical listings):**

54-11-5 | nicotine

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed or exempt.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

Ethanol - listing refers specifically to alcoholic beverage consumption and is not applicable for product.

64-17-5 | Ethanol

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

Ethanol - listing refers specifically to alcoholic beverage consumption and is not applicable for product.

54-11-5 | nicotine

64-17-5 | Ethanol

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

64-17-5 | Ethanol

1

· **Canadian Domestic Substances List (DSL):**

All ingredients are listed or exempt.

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**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
OSHA: Occupational Safety & Health Administration  
Flam. Liq. 2: Flammable liquids – Category 2  
Flam. Liq. 3: Flammable liquids – Category 3  
Acute Tox. 2: Acute toxicity – Category 2  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
Skin Sens. 1: Skin sensitisation – Category 1  
Skin Sens. 1A: Skin sensitisation – Category 1A  
Asp. Tox. 1: Aspiration hazard – Category 1

**Sources**

Website, European Chemicals Agency (echa.europa.eu)  
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)  
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)  
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6  
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.  
Safety Data Sheets, Individual Manufacturers

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