

**SECTION 1: Product and company identification**

Product name : Orange Drain Cleaner - 50% d-Limonene  
Use of the substance/mixture : Drain opener  
Product code : 0379  
Company : Total Solutions  
P.O. Box 240014  
Milwaukee, WI 53224 - USA  
T (414) 354-6417  
Emergency number : Chemtec: (800) 424-9300

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification (GHS-US)**

Flam. Liq. 3 H226  
Skin Irrit. 2 H315  
Eye Irrit. 2A H319  
Skin Sens. 1 H317  
Carc. 2 H351  
Asp. Tox. 1 H304

Full text of H-phrases: see section 16

**2.2. Label elements**

**GHS-US labeling**

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

Flammable liquid and vapor  
May be fatal if swallowed and enters airways  
Causes skin irritation  
May cause an allergic skin reaction  
Causes serious eye irritation  
Suspected of causing cancer

Precautionary statements (GHS-US) :

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Keep away from heat, open flames, sparks. - No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical, lighting equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Avoid breathing vapors, spray  
Wash thoroughly after handling  
Contaminated work clothing must not be allowed out of the workplace  
Wear eye protection, protective clothing, protective gloves  
If swallowed: Immediately call a POISON CENTER, a doctor  
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 exposed or concerned: Get medical advice/attention  
Specific treatment (see First aid measures on this label)  
Do NOT induce vomiting  
If skin irritation or rash occurs: Get medical advice/attention  
If eye irritation persists: Get medical advice/attention  
Take off contaminated clothing and wash before reuse  
In case of fire: Use foam, carbon dioxide (CO<sub>2</sub>), dry extinguishing powder to extinguish  
Store in a well-ventilated place. Keep cool  
Store locked up  
Dispose of contents/container to comply with local/regional/national/international regulations.

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### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

Full text of H-phrases: see section 16

### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
(+)-limonene	(CAS No) 5989-27-5	30-60	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304
hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics	(CAS No) 64742-47-8	≤ 47	Flam. Liq. 4, H227 Asp. Tox. 1, H304
UNDECETH-5	(CAS No) 34398-01-1	1-5	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
xylene	(CAS No) 1330-20-7	1-5	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315
cumene	(CAS No) 98-82-8	0.1-1	Flam. Liq. 3, H226 Carc. 2, H351 STOT SE 3, H335 Asp. Tox. 1, H304

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: Take off immediately all contaminated clothing and wash it before reuse. Wash skin with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: 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.
First-aid measures after ingestion	: Do NOT induce vomiting. Immediately call a poison center or doctor/physician. Rinse mouth with water.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries	: If you feel unwell, seek medical advice.
Symptoms/injuries after inhalation	: Irritation of the respiratory tract. Coughing. Headache.
Symptoms/injuries after skin contact	: Causes skin irritation. May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. Risk of aspiration pneumonia. Nausea. Cramps/uncontrolled muscular contractions. Diarrhoea.
Chronic symptoms	: Cracking of the skin. Dry skin.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Foam. Carbon dioxide. Dry chemical powder.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapor.  
Reactivity : Upon combustion: CO and CO<sub>2</sub> are formed.

### 5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Take account of environmentally hazardous firefighting water.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : No flames, No sparks. Eliminate all sources of ignition.

##### 6.1.1. For non-emergency personnel

Protective equipment : Protective goggles. Gloves. Protective clothing.

Emergency procedures : Evacuate unnecessary personnel. Avoid contact with skin, eyes and clothing. Ventilate spillage area.

##### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Stop leak if safe to do so. Stop release. Ventilate area.

#### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

#### 6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers.

Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Do not get in eyes, on skin, or on clothing. Handle and open the container with care. Keep away from sources of ignition - No smoking. Ground/bond container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Hygiene measures : Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep container tightly closed.

Incompatible products : Oxidizing agent.

Incompatible materials : Sources of ignition.

Storage area : Store away from heat. Store in a cool area. Store in a dry area. Store in a well-ventilated place.

Special rules on packaging : Keep only in original container. meet the legal requirements.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

xylene (1330-20-7)		
ACGIH	ACGIH TWA (ppm)	100 ppm
ACGIH	ACGIH STEL (ppm)	150 ppm
ACGIH	Remark (ACGIH)	URT & eye irr; CNS impair
cumene (98-82-8)		
ACGIH	ACGIH TWA (ppm)	50 ppm
ACGIH	Remark (ACGIH)	Eye, skin, & URT irr; CNS impair

#### 8.2. Exposure controls

Personal protective equipment : Use appropriate personal protective equipment when risk assessment indicates this is necessary. Gloves. Safety glasses. Protective goggles. Protective clothing.



### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: clear, orange liquid.
Odor	: Citrus scent
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 121 °F Closed Cup
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 0.812 g/ml
Solubility	: Emulsifies in water.
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: <= 20 cSt
Viscosity, dynamic	: No data available
VOC content	: > 90 %

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Upon combustion: CO and CO<sub>2</sub> are formed.

#### 10.2. Chemical stability

No additional information available

#### 10.3. Possibility of hazardous reactions

Refer to section 10.1 on Reactivity.

#### 10.4. Conditions to avoid

No additional information available

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>(+)-limonene (5989-27-5)</b>	
LD50 oral rat	4400 mg/kg body weight (Rat; OECD 423: Acute Oral Toxicity – Acute Toxic Class Method; Literature study; > 2000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rabbit	> 5000 mg/kg body weight (Rabbit; Weight of evidence; Equivalent or similar to OECD 402)
ATE CLP (oral)	4400.000 mg/kg body weight
<b>xylene (1330-20-7)</b>	
LC50 inhalation rat (ppm)	4550 ppmV/4h

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<b>xylene (1330-20-7)</b>	
ATE CLP (dermal)	1100.000 mg/kg body weight
ATE CLP (gases)	4550.000 ppmV/4h
ATE CLP (dust, mist)	1.500 mg/l/4h

<b>hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, &lt; 2% aromatics (64742-47-8)</b>	
LD50 dermal rabbit	> 5000 mg/kg body weight (Rabbit; Literature)

<b>UNDECETH-5 (34398-01-1)</b>	
LD50 oral rat	> 1400 mg/kg

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.

<b>(+)-limonene (5989-27-5)</b>	
IARC group	3 - Not Classifiable

<b>xylene (1330-20-7)</b>	
IARC group	3 - Not Classifiable

<b>cumene (98-82-8)</b>	
IARC group	2B - Possibly Carcinogenic to Humans

Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/injuries after inhalation	: Irritation of the respiratory tract. Coughing. Headache.
Symptoms/injuries after skin contact	: Causes skin irritation. May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. Risk of aspiration pneumonia. Nausea. Cramps/uncontrolled muscular contractions. Diarrhoea.
Chronic symptoms	: Cracking of the skin. Dry skin.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>(+)-limonene (5989-27-5)</b>	
LC50 fish 1	720 µg/l (96 h; Pimephales promelas; Lethal)
EC50 Daphnia 1	0.36 mg/l (48 h; Daphnia magna; GLP)
LC50 fish 2	702 µg/l (96 h; Pimephales promelas)
Threshold limit algae 1	150 mg/l (72 h; Desmodesmus subspicatus; GLP)
Threshold limit algae 2	2.62 mg/l (72 h; Desmodesmus subspicatus)

<b>hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, &lt; 2% aromatics (64742-47-8)</b>	
LC50 fish 1	> 100 mg/l (Pisces)
EC50 Daphnia 1	> 100 mg/l (Invertebrata)
Threshold limit algae 1	> 100 mg/l (Algae)

<b>UNDECETH-5 (34398-01-1)</b>	
LC50 fish 1	< 10 mg/l
EC50 Daphnia 1	< 10 mg/l
ErC50 (algae)	< 10 mg/l

### 12.2. Persistence and degradability

<b>(+)-limonene (5989-27-5)</b>	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Adsorbs into the soil.
ThOD	3.29 g O <sub>2</sub> /g substance

<b>hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, &lt; 2% aromatics (64742-47-8)</b>	
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hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-47-8)	
Persistence and degradability	Readily biodegradable in water. Adsorbs into the soil.

### 12.3. Bioaccumulative potential

(+)-limonene (5989-27-5)	
BCF fish 1	864.8 - 1022 (Pisces; Fresh weight)
Log Pow	4.38 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 37 °C)
Bioaccumulative potential	Potential for bioaccumulation ( $4 \geq \text{Log Kow} \leq 5$ ).
hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-47-8)	
Log Pow	6 - 8.2
Bioaccumulative potential	High potential for bioaccumulation ( $\text{Log Kow} > 5$ ).

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

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

## SECTION 14: Transport information

### Department of Transportation (DOT)

Transport document description : UN1993 Flammable liquids, n.o.s. (Aliphatic Hydrocarbons, Terpene Hydrocarbons), 3, III  
UN-No.(DOT) : UN1993  
Proper Shipping Name (DOT) : Flammable liquids, n.o.s.  
Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : III - Minor Danger  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203  
DOT Packaging Bulk (49 CFR 173.xxx) : 242  
DOT Symbols : G - Identifies PSN requiring a technical name  
DOT Special Provisions (49 CFR 172.102) : B1,B52,IB3,T4,TP1,TP29  
DOT Packaging Exceptions (49 CFR 173.xxx) : 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

### Additional information

Other information : When transported by ground in non-bulk containers, this product utilizes the exception found under 49 CFR 173.150.

### ADR

No additional information available

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

xylene	CAS No 1330-20-7	1-5
cumene	CAS No 98-82-8	0.1-1

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xylene (1330-20-7)	
Listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
cumene (98-82-8)	
Listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
UNDECETH-5 (34398-01-1)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

### SECTION 16: Other information

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

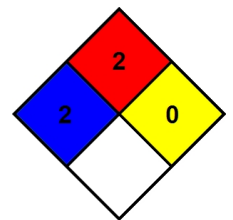
Full text of H-phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 2	Carcinogenicity Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Flam. Liq. 4	Flammable liquids Category 4
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Prepared by: Technical Department

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. No warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Our company assumes no responsibility for personal injury or property damage to the vendee, users or third parties caused by the material. Such vendees or users assume all risks associated with the use of this material.*