



Material Name: HERCULES CPVC ORANGE, MEDIUM BODY, ORANGE OR GOLD

\*\*\* Section 1 - Product and Company Identification \*\*\*

**MSDS #95**

**Part Numbers:** Orange – 60303, 60313, 60315, 60320 Gold – 60353, 60358, 60360, 60365

**Manufacturer Information**

HCC Holdings, Inc.  
An Oatey Affiliate  
4700 West 160th Street  
Cleveland, OH 44135

Phone: 216-267-7100

For Emergency First Aid call 1-877-740-5015. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1- 703-527-3887.

\*\*\* Section 2 - Hazards Identification \*\*\*

**GHS Classification:**

- Flammable Liquids - Category 2
- Acute Toxicity Oral - Category 4
- Acute Toxicity Dermal - Category 4
- Acute Toxicity Inhalation - Category 4
- Eye Damage/Irritation - Category 2A
- Carcinogenicity - Category 2
- Specific Target Organ Toxicity Single Exposure - Category 3

**GHS LABEL ELEMENTS**

**Symbol(s)**



**Signal Word**

Danger

**Hazard Statements**

- Highly flammable liquid and vapor.
- Harmful if swallowed.
- Harmful in contact with skin.
- Harmful if inhaled.
- Causes serious eye irritation.
- Contains a chemical classified by the US EPA as a suspected possible carcinogen.
- May cause respiratory irritation.
- May cause drowsiness or dizziness.

**Precautionary Statements**

**Prevention**

- Keep away from heat/sparks/open flames and hot surfaces. - No smoking.
- Keep container tightly closed.

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Use explosion-proof electrical/ventilating/lighting/equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Wear protective gloves/eye protection/face protection.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Avoid breathing fume/gas/mist/vapors.  
Use only outdoors or in a well-ventilated area.

**Response**

If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.  
If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth. Do not induce vomiting.  
If inhaled: 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.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.  
If exposed or concerned: Get medical advice/attention.  
In case of fire: Use dry chemical, CO2, or foam to extinguish fire.

**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.

**\*\*\* Section 3 - Composition / Information on Ingredients \*\*\***

CAS #	Component	Percent
109-99-9	Tetrahydrofuran	30-40
78-93-3	Methyl ethyl ketone	20-30
68648-82-8	Ethene, chloro-, homopolymer, chlorinated	10-15
108-94-1	Cyclohexanone	10-15
67-64-1	Acetone	5-15

**\*\*\* Section 4 - First Aid Measures \*\*\***

**First Aid: Eyes**

If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

**First Aid: Skin**

Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with hand cleaner or baby oil.

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**First Aid: Ingestion**

DO NOT INDUCE VOMITING. Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

**First Aid: Inhalation**

If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

**\*\*\* Section 5 - Fire Fighting Measures \*\*\***

**General Fire Hazards**

See Section 9 for Flammability Properties.

Highly flammable liquid and vapor. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

**Hazardous Combustion Products**

Carbon Dioxide and Carbon Monoxide are formed. Irritating peroxide fumes formed when heated to decomposition.

**Extinguishing Media**

Use dry chemical, CO<sub>2</sub>, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.

**Unsuitable Extinguishing Media**

None.

**Fire Fighting Equipment/Instructions**

Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

**\*\*\* Section 6 - Accidental Release Measures \*\*\***

**Recovery and Neutralization**

Stop leak if it can be done without risk.

**Materials and Methods for Clean-Up**

Remove all sources of ignition and ventilate area. Soak up spill with an inert absorbent such as sand, earth or other noncombusting material. Put absorbent material in covered, labeled metal containers.

**Emergency Measures**

Isolate area. Keep unnecessary personnel away.

**Personal Precautions and Protective Equipment**

Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high.

**Environmental Precautions**

Prevent liquid from entering watercourses, sewers and natural waterways.

**Prevention of Secondary Hazards**

None

**\*\*\* Section 7 - Handling and Storage \*\*\***

**Handling Procedures**

Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use. "Empty" containers retain product residue and can be hazardous. Follow all SDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

**Storage Procedures**

Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.

**Incompatibilities**

Strong oxidizing materials, Lithium Aluminum Hydride, Sodium Aluminum Hydroxide & Sodium & Potassium Hydroxides.

**\*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\***

**Component Exposure Limits**

**Tetrahydrofuran (109-99-9)**

ACGIH: 50 ppm TWA  
100 ppm STEL  
Skin - potential significant contribution to overall exposure by the cutaneous route  
OSHA: 200 ppm TWA; 590 mg/m3 TWA  
NIOSH: 200 ppm TWA; 590 mg/m3 TWA  
250 ppm STEL; 735 mg/m3 STEL

**Methyl ethyl ketone (78-93-3)**

ACGIH: 200 ppm TWA  
300 ppm STEL  
OSHA: 200 ppm TWA; 590 mg/m3 TWA  
NIOSH: 200 ppm TWA; 590 mg/m3 TWA  
300 ppm STEL; 885 mg/m3 STEL

**Cyclohexanone (108-94-1)**

ACGIH: 20 ppm TWA  
50 ppm STEL  
Skin - potential significant contribution to overall exposure by the cutaneous route  
OSHA: 50 ppm TWA; 200 mg/m3 TWA  
NIOSH: 25 ppm TWA; 100 mg/m3 TWA  
Potential for dermal absorption

**CPVC (Chloroethylene, polymer) (68648-82-8)**

ACGIH: 1 mg/m3 TWA (respirable fraction)

**Acetone (67-64-1)**

ACGIH: 500 ppm TWA  
750 ppm STEL  
OSHA: 1000 ppm TWA; 2400 mg/m3 TWA  
NIOSH: 250 ppm TWA; 590 mg/m3 TWA

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**Engineering Measures**

Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.

**Personal Protective Equipment: Respiratory**

For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

**Personal Protective Equipment: Hands**

Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

**Personal Protective Equipment: Eyes**

Safety glasses with side shields or safety goggles.

**Personal Protective Equipment: Skin and Body**

No additional protective equipment needed.

**\*\*\* Section 9 - Physical & Chemical Properties \*\*\***

<b>Appearance:</b>	Orange/gold	<b>Odor:</b>	Acetone-like
<b>Physical State:</b>	Liquid	<b>pH:</b>	NA
<b>Vapor Pressure:</b>	400 @ 104° F (Based on Acetone)	<b>Vapor Density:</b>	2.0 to 2.5
<b>Boiling Point:</b>	133°F (Based on Acetone)	<b>Melting Point:</b>	NA
<b>Solubility (H2O):</b>	60-85%	<b>Specific Gravity:</b>	0.923 +/- 0.03
<b>Evaporation Rate:</b>	7-11	<b>VOC:</b>	490 g/L
<b>Octanol/H2O Coeff.:</b>	ND	<b>Flash Point:</b>	6°F
<b>Flash Point Method:</b>	TCC	<b>Upper Flammability Limit (UFL):</b>	11.8
<b>Lower Flammability Limit (LFL):</b>	2.0	<b>Burning Rate:</b>	ND
<b>Auto Ignition:</b>	ND		

**\*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\***

**Chemical Stability**

This is a stable material.

**Hazardous Reaction Potential**

Will not occur.

**Conditions to Avoid**

Avoid heat, sparks, flames and other sources of ignition.

**Incompatible Products**

Strong oxidizing materials, Lithium Aluminum Hydride, Sodium Aluminum Hydroxide & Sodium & Potassium Hydroxides.

**Hazardous Decomposition Products**

Carbon Dioxide and Carbon Monoxide are formed. Irritating peroxide fumes formed when heated to decomposition.

\* \* \* **Section 11 - Toxicological Information** \* \* \*

## Acute Toxicity

### Component Analysis - LD50/LC50

#### **Tetrahydrofuran (109-99-9)**

Inhalation LC50 Rat 53.9 mg/L 4 h; Inhalation LC50 Rat 180 mg/L 1 h; Oral LD50 Rat 1650 mg/kg

#### **Methyl ethyl ketone (78-93-3)**

Inhalation LC50 Mouse 32 g/m<sup>3</sup> 4 h; Oral LD50 Rat 2737 mg/kg; Dermal LD50 Rabbit 6480 mg/kg

#### **Cyclohexanone (108-94-1)**

Inhalation LC50 Rat 10.7 mg/L 4 h; Inhalation LC50 Rat 8000 ppm 4 h; Oral LD50 Rat 800 mg/kg; Dermal LD50 Rabbit 948 mg/kg

#### **Acetone (67-64-1)**

Oral LD50 Rat 5800 mg/kg

### **Potential Health Effects: Skin Corrosion Property/Stimulativeness**

May cause irritation with redness, itching and pain. Methyl ethyl ketone and cyclohexanone may be absorbed through the skin causing effects similar to those listed under inhalation.

### **Potential Health Effects: Eye Critical Damage/ Stimulativeness**

Vapors may cause irritation. Direct contact may cause irritation with redness, stinging and tearing of the eyes. May cause eye damage.

### **Potential Health Effects: Ingestion**

Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

### **Potential Health Effects: Inhalation**

Vapors or mists may cause mucous membrane and respiratory irritation, coughing, headache, dizziness, dullness, nausea, shortness of breath and vomiting. High concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

### **Respiratory Organs Sensitization/Skin Sensitization**

This product is not reported to have any skin sensitization effects.

### **Generative Cell Mutagenicity**

Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.

### **Carcinogenicity**

#### **A: General Product Information**

In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

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**B: Component Carcinogenicity**

**Tetrahydrofuran (109-99-9)**

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

**Cyclohexanone (108-94-1)**

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

**Ethene, chloro-, homopolymer, chlorinated (68648-82-8)**

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))

**Acetone (67-64-1)**

ACGIH: A4 - Not Classifiable as a Human Carcinogen

**Reproductive Toxicity**

Methyl ethyl ketone and cyclohexanone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran has been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.

**Specified Target Organ General Toxicity: Single Exposure**

May cause respiratory irritation. Inhalation of high concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

**Specified Target Organ General Toxicity: Repeated Exposure**

This product is not reported to have any specific target organ toxicity repeat exposure effects.

**Aspiration Respiratory Organs Hazard**

Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

**\*\*\* Section 12 - Ecological Information \*\*\***

**Ecotoxicity**

**A: General Product Information**

This product is not expected to be toxic to aquatic organisms.

**B: Component Analysis - Ecotoxicity - Aquatic Toxicity**

**Tetrahydrofuran (109-99-9)**

**Test & Species**

**Conditions**

96 Hr LC50 Pimephales promelas	1970-2360 mg/L [flow-through]
96 Hr LC50 Pimephales promelas	2700-3600 mg/L [static]
24 Hr EC50 Daphnia magna	5930 mg/L

**Methyl ethyl ketone (78-93-3)**

**Test & Species**

**Conditions**

96 Hr LC50 Pimephales promelas	3130-3320 mg/L [flow-through]
48 Hr EC50 Daphnia magna	>520 mg/L
48 Hr EC50 Daphnia magna	5091 mg/L
48 Hr EC50 Daphnia magna	4025 - 6440 mg/L [Static]

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**Cyclohexanone (108-94-1)**

**Test & Species**

		<b>Conditions</b>
96 Hr LC50 Pimephales promelas	481-578 mg/L [flow-through]	
96 Hr LC50 Pimephales promelas	8.9 mg/L	
96 Hr EC50 Chlorella vulgaris	20 mg/L	
24 Hr EC50 Daphnia magna	800 mg/L	

**Acetone (67-64-1)**

**Test & Species**

		<b>Conditions</b>
96 Hr LC50 Oncorhynchus mykiss	4.74 - 6.33 mL/L	
96 Hr LC50 Pimephales promelas	6210 - 8120 mg/L [static]	
96 Hr LC50 Lepomis macrochirus	8300 mg/L	
48 Hr EC50 Daphnia magna	10294 - 17704 mg/L [Static]	
48 Hr EC50 Daphnia magna	12600 - 12700 mg/L	

**Persistence/Degradability**

No information available for the product.

**Bioaccumulation**

No information available for the product.

**Mobility in Soil**

No information available for the product.

**\*\*\* Section 13 - Disposal Considerations \*\*\***

**Waste Disposal Instructions**

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

**Disposal of Contaminated Containers or Packaging**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**\*\*\* Section 14 - Transportation Information \*\*\***

**DOT Information**

**For Greater than 1 liter (0.3 gal):**

**Shipping Name:** Flammable Liquid, n.o.s (Tetrahydrofuran, Methyl Ethyl Ketone)

**UN #: 1993 Hazard Class: 3 Packing Group: II**

**Required Label(s):** Flammable Liquid

**For Less than 1 liter (0.3 gal):**

**Shipping Name:** Consumer Commodity, ORM-D

**IMDG Information**

**For Greater than 1 liter (0.3 gal):**

**Shipping Name:** Flammable Liquid, n.o.s (Tetrahydrofuran, Methyl Ethyl Ketone)

**UN #: 1993 Hazard Class: 3 Packing Group: II**

**Required Label(s):** Flammable Liquid



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**For Less than 1 liter (0.3 gal):**

**Shipping Name:** Flammable Liquid, n.o.s (Tetrahydrofuran, Methyl Ethyl Ketone)

**UN #: 1993 Hazard Class: 3 Packing Group: II**

**Required Label(s):** None (Limited Quantities are expected from labeling)

**\* \* \* Section 15 - Regulatory Information \* \* \***

**Regulatory Information**

**US Federal Regulations**

**Component Analysis**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

**Tetrahydrofuran (109-99-9)**

CERCLA: 1000 lb final RQ; 454 kg final RQ

**Methyl ethyl ketone (78-93-3)**

CERCLA: 5000 lb final RQ; 2270 kg final RQ

**Cyclohexanone (108-94-1)**

CERCLA: 5000 lb final RQ; 2270 kg final RQ

**Acetone (67-64-1)**

CERCLA: 5000 lb final RQ; 2270 kg final RQ

**State Regulations**

**Component Analysis - State**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Tetrahydrofuran	109-99-9	Yes	Yes	Yes	Yes	Yes	No
Methyl ethyl ketone	78-93-3	Yes	Yes	Yes	Yes	Yes	No
Cyclohexanone	108-94-1	Yes	Yes	Yes	Yes	Yes	No
Ethene, chloro-, homopolymer, chlorinated	68648-82-8	No	No	No	Yes	No	No
Acetone	67-64-1	Yes	Yes	Yes	Yes	Yes	No

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### Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Tetrahydrofuran	109-99-9	1 %
Methyl ethyl ketone	78-93-3	1 %
Cyclohexanone	108-94-1	0.1 %
Acetone	67-64-1	1 %

### Additional Regulatory Information

#### A: General Product Information

This product contains trace amounts of chemicals known to the State of California to cause cancer. Under normal use conditions, exposure to these chemicals at levels above the State of California "No Significant Risk Level" (NSRL) are unlikely. The use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 will minimize exposure to these chemicals.

#### B: Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Tetrahydrofuran	109-99-9	Yes	DSL	EINECS
Methyl ethyl ketone	78-93-3	Yes	DSL	EINECS
Cyclohexanone	108-94-1	Yes	DSL	EINECS
Ethene, chloro-, homopolymer, chlorinated	68648-82-8	Yes	DSL	ELINCS
Acetone	67-64-1	Yes	DSL	EINECS

### \* \* \* Section 16 - Other Information \* \* \*

#### Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

#### Literature References

None

#### Other Information

NFPA and HMIS:

NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None

HMIS Hazard Signal: Health: 2\* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, we cannot give any guarantees regarding information from other sources, and expressly do not make warranties, nor assume any liability for its use.

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