

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Product name: COT
 Product Number: TQ001
 Product use: For laboratory research purposes
 Restrictions on use: Not for drug or household use
 Safety Sheet Supplier: Oakley, Inc.
 4000 Luxottica Place
 Mason, OH 45040
 USA
 Telephone: (614) 492-5610
 Emergency Phone: (614) 674-4846
 E-mail address: info.exciton@luxotticaretail.com

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225
 Skin irritation (Category 2), H315
 Eye irritation (Category 2A), H319
 Skin sensitization (Category 1), H317
 Carcinogenicity (Category 2), H351
 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
 Aspiration hazard (Category 1), H304
 Acute aquatic toxicity (Category 3), H402

GHS Label elements

Pictogram



Signal word: Danger

Hazard statement(s)

H225: Highly flammable liquid and vapor
 H304: May be fatal if swallowed and enters airways
 H315: Causes skin irritation
 H317: May cause an allergic skin reaction
 H319: Causes serious eye irritation
 H335: May cause respiratory irritation
 H351: Suspected of causing cancer
 H402: Harmful to aquatic life

Precautionary statement(s)

P201: Obtain special instructions before use
 P202: Do not handle until all safety precautions have been read and understood
 P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 P233: Keep container tightly closed

P240	Ground/bond container and receiving equipment
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P261	Avoid breathing fume/ gas/ mist/ vapors/ spray.
P264	Wash skin thoroughly after handling
P271	Use only outdoors or in a well-ventilated area
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P331	Do NOT induce vomiting.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up
P501	Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified or not covered by GHS

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms:	Cyclooctatetraene
Formula:	C ₈ H ₈
Molecular Weight:	104.15 gm/mol

Hazardous components

Component	Classification	Concentration
Cyclooctatetraene: CAS Number 626-20-9	Flam. Liq. 2; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Asp. Tox. 1; H225, H304, H315, H319, H335	<= 100%
Hydroquinone: CAS Number 123-31-9	Acute Tox. 4; Eye Dam. 1; Skin Sens. 1; Muta. 2; Carc. 2; Aquatic Acute 1; Aquatic Chronic 1; H302, H317, H318, H341, H351, H410	<= 0.1%

4. FIRST AID MEASURES**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

No further relevant information available

Indication of any immediate medical attention and special treatment needed

No further relevant information available

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NOx)

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus for fire-fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions

Prevent further leakage of spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C

Storage class (TRGS 510): Flammable liquids

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Component	CAS-No.	Value	Control Parameters	Basis
Hydroquinone	123-31-9	TWA	1.0 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Eye irritation Eye damage Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) Confirmed animal carcinogen with unknown relevance to humans Sensitizer		
		TWA	1 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		Dermal Sensitization Eye irritation Eye damage 2014 Adoption Confirmed animal carcinogen with unknown relevance to humans		
		TWA	2.0 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	2.0 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		C	2.0 mg/m ³	USA. NIOSH Recommended Exposure Limits
		15 minute ceiling value		

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological Specimen	Basis
Hydroquinone	123-31-9	Methemoglobin	1.5%	In blood	ACGIH – Biologic Exposure Indices (BEI)
	Remarks	During or end of shift			

Appropriate engineering controls

Use only in an area equipped with explosion proof exhaust ventilation.

Hygiene measures and engineering controls

Adequate ventilation and/or containment in accordance with good laboratory practices.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with impermeable gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye / face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved

under appropriate government standards such as NIOSH (US) or EN 166(EU).

Body protection

Complete suit protecting against chemicals. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

a) Appearance	Form: clear liquid Color: light yellow
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point	No data available
f) Initial boiling point and boiling range	142-143 °C
g) Flash point	22 °C
h) Evaporation rate	No data available
i) Flammability	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Solubility	Insoluble in water
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available

10. STABILITY AND REACTIVITY

a) Reactivity	No data available
b) Chemical stability	Stable under recommended storage conditions
c) Possibility of hazardous reactions	No data available
d) Conditions to avoid (e.g. static discharge)	No data available
e) Incompatible materials	Strong oxidizing agents
f) Hazardous decomposition products	See Section 5.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

No data available

Dermal : No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: 3 – Group 3: Not classifiable as to its carcinogenicity to humans (Hydroquinone).

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

Routes of Exposure:

Inhalation, Eye contact, Ingestion, Skin contact.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Additional Information

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence (Hydroquinone)

12. ECOLOGICAL INFORMATION

Toxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects..

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 2358 Class: 3 Packing group: II Proper shipping name: Cyclooctatetraene
Reportable Quantity (RQ): Poison Inhalation Hazard: No

IMDG

UN number: 2358 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: CYCLOOCTATETRAENE

IATA

UN number: 2358 Class: 3 Packing group: II Proper shipping name: Cyclooctatetraene

15. REGULATORY INFORMATION

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (de Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Hydroquinone	CAS-Number	123-31-9	Revision Date	2007-07-01
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Pennsylvania Right To Know Components

Hydroquinone	CAS-Number	123-31-9	Revision Date	2007-07-01
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New Jersey Right To Know Components

Hydroquinone	CAS-Number	123-31-9	Revision Date	2007-07-01
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California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION**HMIS Rating**

Health hazard:	2
Chronic Health Hazard:	
Flammability:	3
Physical Hazard:	0

NFPA Rating

Health hazard:	2
Fire Hazard:	3
Reactivity Hazard:	0

Further information

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