

**1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY**

Product name: Quadricyclane  
 Product Number: 22100  
 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

Acute toxicity, Inhalation (Category 2), H330

**GHS Label elements**

Pictogram



Signal word: Danger

Hazard statement(s)

H225: Highly flammable liquid and vapor  
 H330: Fatal if inhaled

Precautionary statement(s)

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  
 P260: Do not breathe fumes/ gas/ mist/ vapors/ spray.  
 P271: Use only outdoors or in a well-ventilated area  
 P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P284: Wear respiratory protection  
 P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P310: Immediately call a POISON CENTER or doctor/physician  
 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: Tetracyclo [2.2.1.0<sup>2,7</sup>.0<sup>4,6</sup>]heptane  
 Formula: C7 H8  
 Molecular Weight: 92.14 gm/mol  
 CAS-No.: 278-06-8  
 EC-No.: 205-994-1

**Hazardous components**

Component	Classification	Concentration
Tetracyclo [2.2.1.0 <sup>2,7</sup> .0 <sup>4,6</sup> ]heptane	Flam. Liq. 2; Acute Tox. 2; H225, H330	<= 100%

**4. FIRST AID MEASURES,6****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. Take immediately to a hospital. 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 – See Section 2.

**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

**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.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Components with workplace control parameters**

No reported exposure limit values.

**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: liquid
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	108 °C at 740 mmHg
g) Flash point	11 °C – closed cup
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	0.982 g/cm <sup>3</sup>
n) Solubility	No data available
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	Vapors may form explosive mixtures with air
d) Conditions to avoid (e.g. static discharge)	Heat, flames, and sparks. Extremes of temperature and Direct sunlight
e) Incompatible materials	Strong oxidizing agents
f) Hazardous decomposition products	See Section 5.

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

No data available

LC50 Inhalation – rat – 4 h – 0.78 mg/l

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

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a

known or anticipated carcinogen by ACGIH.

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**

No data available

**Additional Information**

RTECS: XB7436000

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

## 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**

No data available

## 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: 3384

Class 6.1 (3)

Packing Group I

Proper shipping name: Toxic by inhalation liquid, flammable, n.o.s. (Tetracyclo [2.2.1.0<sup>2,7</sup>.0<sup>4,6</sup>])heptane

Reportable Quantity (RQ): Marine pollutant: No Poison inhalation hazard: Hazard zone B

**IMDG**

UN number: 3384 Class 6.1 (3) Packing Group I EMS-No: F-E, S-D  
Proper shipping name: Toxic by inhalation liquid, flammable, n.o.s. (Tetracyclo [2.2.1.0<sup>2,7</sup>.0<sup>4,6</sup>]heptane  
Marine pollutant: No

**IATA**

UN number: 3384 Class 6.1 (3)  
Proper shipping name: Toxic by inhalation liquid, flammable, n.o.s. (Tetracyclo [2.2.1.0<sup>2,7</sup>.0<sup>4,6</sup>]heptane  
IATA Passenger: Not permitted for transport  
IATA Cargo: not permitted for transport

**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

**Massachusetts Right To Know Components**

No components are subject to Massachusetts Right to Know Act

**Pennsylvania Right To Know Components**

Tetracyclo [2.2.1.0<sup>2,7</sup>.0<sup>4,6</sup>]heptane CAS-No.: 278-06-8

**New Jersey Right To Know Components**

Tetracyclo [2.2.1.0<sup>2,7</sup>.0<sup>4,6</sup>]heptane CAS-No.: 278-06-8

**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: 3  
Chronic Health Hazard:  
Flammability: 3  
Physical Hazard: 0

**NFPA Rating**

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

**Further information**

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