

# OPTICON

HAZARD  
RATING

Material Safety Data Sheet  
May be used to comply with  
OSHA's Hazard Communication Standard,  
29 CFR 1910.1200. Standard must be  
consulted for specific requirements.

U.S. Department of Labor  
Occupational Safety and Health Administration  
(Non-Mandatory Form)  
Form Approved  
OMB No. 1218-0072

IDENTITY (As Used on Label and List)

OPTICON 224

Note: Blank spaces are not permitted. If any item is not applicable, or no  
information is available, the space must be marked to indicate that.

**Section I**

|  |  |
|--|--|
| Supplier Information:<br>Santa Fe Jewelry Supply<br>1513 Fifth Street Santa Fe, NM 87505 | Emergency Telephone Number<br>(612) 443-2626       |
|  | Telephone Number for Information<br>(612) 443-2626 |
|  | Date Prepared                                      |
|  | Signature of Preparer (optional)                   |

**Section II — Hazardous Ingredients/Identity Information**

| Hazardous Components (Specific Chemical Identity; Common Name(s)) | OSHA PEL        | ACGIH TLV | Other Limits Recommended | % (optional) |
|---|-----------------|-----------|--------------------------|--------------|
| Biphenol A/Epichlorohydrin Resin                                  | non established |           |                          |              |
| N-Butyl Glycidyl Ether  | 50 ppm          | 25ppm     |                          |              |
| Epichlorohydrin   | 5ppm            | 2ppm      | 1ppm-skin                |              |
|   |                 |           |                          |              |
|   |                 |           |                          |              |
|   |                 |           |                          |              |
|   |                 |           |                          |              |
|   |                 |           |                          |              |
|   |                 |           |                          |              |
|   |                 |           |                          |              |

**Section III — Physical/Chemical Characteristics**

|                         |                     |   |      |
|-------------------------|---------------------|---|------|
| Boiling Point           | n/av                | Specific Gravity (H <sub>2</sub> O = 1) | 1.13 |
| Vapor Pressure (mm Hg.) | 1                   | Melting Point                           | n/av |
| Vapor Density (AIR = 1) | 4.5                 | Evaporation Rate<br>(Butyl Acetate = 1) | n/av |
| Solubility in Water     | negligible          |   |      |
| Appearance and Odor     | light yellow liquid |   |      |

**Section IV — Fire and Explosion Hazard Data**

|  |                  |             |             |
|--|------------------|-------------|-------------|
| Flash Point (Method Used)<br>164 Deg. F (SETA Flash)                                   | Flammable Limits | LEL<br>n/av | UEL<br>n/av |
| Extinguishing Media<br>Use water, fog, foam, dry chemical or CO <sub>2</sub>           |                  |             |             |
| Special Fire Fighting Procedures<br>Caution: combustible - avoid breathing smoke       |                  |             |             |
| Unusual Fire and Explosion Hazards<br>No unusual hazards, handle as combustible liquid |                  |             |             |

(Reproduce locally)

OSHA 174, Sept. 1985

Section V Reactivity Data

|           |          |   |                     |
|-----------|----------|---|---------------------|
| Stability | Unstable |   | Conditions to Avoid |
|           | Stable   | X |                     |

Incompatibility (Materials to Avoid)

Hazardous Decomposition or Byproducts

carbon monoxide, aldehydes & acids may be formed during combustion. Some curing agents may cause considerable heat.

|                          |                |   |   |
|--------------------------|----------------|---|---|
| Hazardous Polymerization | May Occur      |   | Conditions to Avoid   |
|                          | Will Not Occur | X | Avoid heat, flame & contact with strong oxidizing agents. Can react vigorously with strong Lewis or mineral acids & strong organic bases/especially primary and secondary aliphatic amines. |

Section VI — Health Hazard Data

|                    |  |                              |                |
|--------------------|--|------------------------------|----------------|
| Route(s) of Entry: | Inhalation?  | Skin?                        | Ingestion?     |
|                    | May cause irritation to eyes, nose, respiratory tract. | May cause skin sensitization | slightly toxic |

Health Hazards (Acute and Chronic)

|                  |      |                  |                 |
|------------------|------|------------------|-----------------|
| Carcinogenicity: | NTP? | IARC Monographs? | OSHA Regulated? |
| No               |      |                  |                 |

Signs and Symptoms of Exposure  
Skin sensitizes (allergy) may be evidenced by rashes.

Medical Conditions  
Generally Aggravated by Exposure Preexisting eye, skin & respiratory disorders may be aggravated by exposure to this product.

Emergency and First Aid Procedures  
Skin contact: wash immediately with soap & water. EYE contact: flush eyes with water for 15 min. Consult physician

INGESTION: do not induce vomiting, if vomiting occurs spontaneously, keep head below hips to prevent aspiration into lungs. Get medical attention.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled  
Caution: combustible. Eliminate potential source of ignition.

Clean up with cloth or other absorbent material & place in non leaking container for proper disposal. Keep out of sewers, surface waters etc.

Waste Disposal Method  
Place in appropriate disposal facility in compliance with local regulations.

Precautions to Be Taken in Handling and Storing  
Do not store near extreme heat.

Use protective goggles, gloves and use in well ventilated area.

Other Precautions  
ANSI classification of 4, empty containers can contain hazardous residue & explosive vapors. Do not cut, drill, grind or weld on or near container.

Section VIII — Control Measures

Respiratory Protection (Specify Type)  
NIOSH approved respiratory equipment - avoid prolonged breathing of vapor or mist.

|             |  |  |
|-------------|--|--|
| Ventilation | Local Exhaust<br>Highly recommended        | Special  |
|             | Mechanical (General)<br>Highly recommended | Other eye wash fountains, showers should be available for emergencies. |

Protective Gloves  
Rubber or chemical resistant gloves

Eye Protection  
Goggles

Other Protective Clothing or Equipment  
As required to prevent skin contact.

Work/Hygiene Practices  
Sensitizer, wash with soap & water before drinking, eating, smoking or using toilet facilities.

**Material Safety Data Sheet**  
 May be used to comply with  
 OSHA's Hazard Communication Standard,  
 29 CFR 1910.1200. Standard must be  
 consulted for specific requirements.

**U.S. Department of Labor**  
 Occupational Safety and Health Administration  
 (Non-Mandatory Form)  
 Form Approved  
 OMB No. 1218-0072



IDENTITY (As Used on Label and List)  
**OPTICON HARDENER**

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

**Section I**

Supplier Information:  
 Santa Fe Jewellery Supply  
 1513 Fifth Street Santa Fe, NM 87505

Emergency Telephone Number  
 (612) 443-2626  
 Telephone Number for Information  
 (612) 443-2626  
 Date Prepared  
 JULY 1991  
 Signature of Preparer (optional)

**Section II — Hazardous Ingredients/Identity Information**

| Hazardous Components (Specific Chemical Identity; Common Name(s)) | OSHA PEL         | ACGIH TLV        | Other Limits Recommended (Tolerable % (optional)) |
|---|------------------|------------------|---|
| Nitrogen compounds (alkyleneamines)                               | none established | none established |   |
| Triethylenetetramine  |                  |                  |   |

**Section III — Physical/Chemical Characteristics**

|                         |                       |   |  |
|-------------------------|-----------------------|---|--|
| Boiling Point           | 277.40° C (531.32° F) | Specific Gravity (H <sub>2</sub> O = 1) | 0.9805 at 20/20° C                           |
| Vapor Pressure (mm Hg.) | < 0.01mmHg            | Melting Point                           |  |
| Vapor Density (AIR = 1) | 5.0                   | Evaporation Rate (Butyl Acetate = 1)    | < 0.01                                       |
| Solubility in Water     | complete              | Appearance and Odor                     | very faint yellow liquid, mild amonical odor |

**Section IV — Fire and Explosion Hazard Data**

|                           |  |                  |                   |                  |
|---------------------------|--|------------------|-------------------|------------------|
| Flash Point (Method Used) | 275° F Tag closed cup.   | Flammable Limits | LEL 1.0 calculate | UEL 6.5 estimate |
| Extinguishing Media       | Use water spray, carbon dioxide, dry chemical or universal type foams applicable |                  |                   |                  |

Special Fire Fighting Procedures  
 A solid stream of water directed into hot burning liquid could cause frothing. A water spray will reduce intensity of flames. Use self-contained breathing apparatus & protective clothing.

Unusual Fire and Exinction Hazards  
 Air supplied respirators should be available to fire fighters (oxides or nitrogen can be evolved)



Section V — Reactivity Data

|           |          |   |                     |
|-----------|----------|---|---------------------|
| Stability | Unstable |   | Conditions to Avoid |
|           | Stable   | X | None                |

Incompatibility (Materials to Avoid) **Strong mineral acids & strong oxidizing agents such as nitric acid, liquid oxygen, ozone.**

Hazardous Decomposition or Byproducts **Thermal decomposition or burning may produce nitrogen oxides, carbon monoxide, and/or carbon dioxide.**

|                          |                |   |                     |
|--------------------------|----------------|---|---------------------|
| Hazardous Polymerization | May Occur      |   | Conditions to Avoid |
|                          | Will Not Occur | X | None                |

Section VI — Health Hazard Data

|                    |             |       |            |
|--------------------|-------------|-------|------------|
| Route(s) of Entry: | Inhalation? | Skin? | Ingestion? |
|                    | 1           | 2     | X          |

Health Hazards (Acute and Chronic)  
 1. Vapors may cause nausea & vomiting, & may be irritating.

2. Causes skin & eye burns.

|                          |      |                  |                 |
|--------------------------|------|------------------|-----------------|
| Carcinogenicity:         | NTP? | IARC Monographs? | OSHA Regulated? |
| No information available |      |                  |                 |

Signs and Symptoms of Exposure  
 Over exposure; a strong sensitizer which may cause skin rash with repeated contact.

Medical Conditions  
 Generally Aggravated by Exposure See Health Hazards

Emergency and First Aid Procedures  
 Immediately flush skin & eyes with plenty of water for at least 15min. Get medical care for eyes. If inhaled, remove to fresh air, give oxygen if breathing is difficult. Call physician. If swallowed; give large amounts of water, do not induce vomiting, call physician.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled

Small spills should be flushed with large quantities of water. Larger spills should be collected for disposal.

Waste Disposal Method  
 Incinerate in furnace equipped to remove oxides of nitrogen from the off-gases, and where permitted under appropriate Federal, State and local regulations.

Precautions to Be Taken in Handling and Storing  
 Do not get in eyes, on skin, on clothing. Avoid breathing vapors. Use with adequate ventilation. Wash thoroughly after handling.

Other Precautions  
 Avoid large discharge to sewers.

Section VIII — Control Measures

Respiratory Protection (Specify Type)  
 Air supplied mask in confined areas.

|             |                      |         |
|-------------|----------------------|---------|
| Ventilation | Local Exhaust        | Special |
|             | Preferable           | Other   |
|             | Mechanical (General) |         |
|             | Acceptable           |         |

Protective Gloves Rubber gloves Eye Protection Monogoggles

Other Protective Clothing or Equipment Safety shower & eye bath

Work/Hygienic Practices  
 Use rubber gloves, monogoggles, wash thoroughly after handling - avoid breathing vapors.