OIL, MISC: CASHEW NUT SHELL

OCN

CAUTIONARY RESPONSE INFORMATION

Common Synonyms
Anacardic acid
Cashew nutshell liquid
Cashew nutshell oil
Oil of cashew nutshell
o-Pentadecadienyl salicylic acid

Liquid Black

KEEP PEOPLE AWAY. AVOID CONTACT WITH LIQUID OR VAPOR.
Wear self-contained positive pressure breathing apparatus and special protective clothing.
Shut off ignition sources and call fire department.
Stay upwind out of low areas and use water spray to ``knock down'' vapor.
Notify local health and pollution control agencies.
Protect water intakes.

Fire

Combustible
Poisonous gases may be produced in fire or when heated.
Containers may explode in fire. (Polymerizes at high temperatures.)
Wear self-contained positive pressure breathing apparatus and special protective clothing.
Extinguish with dry chemical, carbon dioxide, water spray, fog or foam.
Combat fires from safe distance or protected location.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID

VAPOR
May be harmful if inhaled.
May cause skin to blister (sensitive individuals).
May irritate eyes, nose and throat.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
Toxic and irritating. If swallowed, cardol, a principal constituent, produces severe gastroenteritis.
Produces severe inflammation of the skin with subsequent blisters and desquamation - similar to poison ivy exposure.
May burn eyes.
Remove and isolate contaminated clothing and shoes.
Flush contaminated area with plenty of runnning water for at least 15 minutes.
IF IN EYES, hold eyelids open and flush with water.
IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.
Effects may be delayed; keep victim under observation.

Water Pollution

Effect of low concentrations on aquatic life is unknown.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Skim; Pump

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 4; Organic acids
2.2 Formula: Not pertinent
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: Not listed
2.5 CAS Registry No.: 8001-24-7
2.6 NAERG Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 42000

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Wear positive pressure breathing apparatus and special protective clothing.
3.2 Symptoms Following Exposure: Inhalation: May irritate mucous membranes; it is extremely acrid and corrosive. Toxic; may be harmful if inhaled. Eyes: May cause burns to eyes. Skin: Produces severe inflammation of the skin with subsequent blisters and desquamation. Symptons resemble poison ivy exposure effects. Ingestion: Toxic and irritating, Cardol, a major constituent, produces severe gastroenteritis.
3.3 Treatment of Exposure: Call emergency medical care. Inhalation: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES or SKIN: Immediately flush with running water for at least 15 minutes; hold eyelids open periodically, if appropriate. Speed in removing material from skin is of extreme importance. Remove and isolate contaminated clothing and shoes at the site. Keep victim quiet and maintain normal body temperature. Effects may be delayed; keep victim under observation.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Currently not available
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: Similar to poison ivy.
3.11 Liquid or Solid Characteristics: Similar to poison ivy exposures. Produces severe inflammation of the skin followed by blisters.
3.12 Odor Threshold: Currently not available
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: Currently not available
4.2 Flammable Limits in Air: Currently not available
4.3 Fire Extinguishing Agents: Small fires: Dry chemical, carbon dioxide, water spray or foam. Large Fires: Water spray, fog or foam.
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: May contain irritating or poisonous gases.
4.6 Behavior in Fire: The primary constituent, anacardic acid, decarboxylates at high temperatures to produce carbon dioxide gas. This reaction could generate pressure in a heated closed container.
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: Not pertinent.
4.12 Flame Temperature: data not avaialbel
4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent.
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: No restrictions on aluminum, aluminum alloys, copper, copper alloys zinc, galvanized steel or alloys having more than 10 percent zinc (by weight), lead, magnesium, silver or silver alloys, or mercury
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Currently not available
5.5 Polymerization: Currently not available
5.6 Inhibitor of Polymerization: Currently not available

6. WATER POLLUTION

6.1 Aquatic Toxicity: Currently not available
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): Currently not available
6.4 Food Chain Concentration Potential: Currently not available
6.5 GESAMP Hazard Profile:
Bioaccumulation: 0
Damage to living resources: 0
Human Oral hazard: 0
Human Contact hazard: I
Reduction of amenities: X

7. SHIPPING INFORMATION

7.1 Grades of Purity: Variable untreated mixture. Range of main C_{15} component phenols from six sources: anacardic acid: 74.1 to 77.4%; cardol: 15.0 to 20.1%; 2-methylcardol: 1.7 to 2.6%; cardanol: 1.2 to 9.2% Each component has four constituents because the C_{15} side chain for each component has 0, 1, 2 and 3 double bonds.
7.2 Storage Temperature: Currently not available
7.3 Inert Atmosphere: No requirement
7.4 Venting: Pressure vacuum valve
7.5 IMO Pollution Category: D
7.6 Ship Type: 3
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Not listed
8.2 49 CFR Class: Not pertinent
8.3 49 CFR Package Group: Not listed.
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification: Not listed
8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Currently not available
9.2 Molecular Weight: Not pertinent
9.3 Boiling Point at 1 atm: Not pertinent
9.4 Freezing Point: Not pertinent
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: Currently not available
9.8 Liquid Surface Tension: Not pertinent
9.9 Liquid Water Interfacial Tension: Not pertinent
9.10 Vapor (Gas) Specific Gravity: Not pertinent
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: Not pertinent
9.13 Heat of Combustion: Not pertinent
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Not pertinent
9.16 Heat of Polymerization: Currently not available
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	NOT PERTINENT		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	INSOLUBLE		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT