

# DECANOIC ACID

DCO

## CAUTIONARY RESPONSE INFORMATION

|  |  |       |             |
|--|--|-------|-------------|
| Common Synonyms  | Crystalline solid<br>n-Capric acid<br>Capric acid<br>n-Decanoic acid<br>n-Decyl acid<br>Hexacid 1095<br>Neo-fat 10   | White | Rancid odor |
| <p>Keep people away.<br/>Avoid contact with compound and its vapor.<br/>Wear rubber overclothing (including gloves).<br/>Call fire department.<br/>Notify local health and pollution control agencies.</p> |  |       |             |
| Fire   | Combustible.<br>Water may be ineffective on fire.<br>Extinguish with dry chemical, alcohol foam, or CO <sub>2</sub> .<br>Wear self contained breathing apparatus and protective clothing.  |       |             |
| Exposure   | CALL FOR MEDICAL AID<br><br>VAPOR<br>Irritating to eyes, nose and throat.<br>If inhaled will cause coughing or difficult breathing.<br>If in eyes, hold eyelids open and flush with plenty of water.<br>If breathing has stopped, give artificial respiration.<br>If breathing is difficult, give oxygen.<br><br>LIQUID OR SOLID<br>Will burn skin and eyes.<br>If swallowed will cause nausea and vomiting.<br>Remove contaminated clothing and shoes.<br>Flush affected areas with plenty of water.<br>IF IN EYES, hold eyelids open and flush with plenty of water. |       |             |
| Water Pollution  | May be dangerous to aquatic life in high concentrations.<br>May be dangerous if it enters water intakes.<br>Notify local health and wildlife officials.<br>Notify operators of nearby water intakes.   |       |             |

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|--|----------------|--------------------------|
| 1. CORRECTIVE RESPONSE ACTIONS   | Stop discharge | 2. CHEMICAL DESIGNATIONS |
| <p>2.1 CG Compatibility Group: 4; Organic acids.<br/>2.2 Formula: CH<sub>3</sub>(CH<sub>2</sub>)<sub>8</sub>CO<sub>2</sub>H<br/>2.3 IMO/UN Designation: Currently not available<br/>2.4 DOT ID No.: Not listed<br/>2.5 CAS Registry No.: 334-48-5<br/>2.6 NAERG Guide No.: Not listed<br/>2.7 Standard Industrial Trade Classification: 51377</p>  |                |                          |
| <h3>3. HEALTH HAZARDS</h3> <p>3.1 Personal Protective Equipment: Respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.</p> <p>3.2 Symptoms Following Exposure: Harmful if swallowed or inhaled. Material is irritating to tissues of mucous membranes, and upper respiratory tract, eyes and skin.</p> <p>3.3 Treatment of Exposure: INHALATION: Call for medical aid. Remove the victim to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with copious amounts of water for at least 15 minutes, while removing contaminated clothing and shoes. Assure adequate flushing of the eyes by separating the eyelids with the fingers.</p> <p>3.4 TLV-TWA: Not listed.</p> <p>3.5 TLV-STEL: Not listed.</p> <p>3.6 TLV-Ceiling: Not listed.</p> <p>3.7 Toxicity by Ingestion: Grade 3; LD<sub>50</sub> = 129 mg/kg mouse, intravenous</p> <p>3.8 Toxicity by Inhalation: Currently not available.</p> <p>3.9 Chronic Toxicity: Currently not available</p> <p>3.10 Vapor (Gas) Irritant Characteristics: Vapors cause severe irritation of eyes and throat and can cause eye and lung injury. They cannot be tolerated even at low concentrations.</p> <p>3.11 Liquid or Solid Characteristics: Severe skin irritant. Causes second and third degree burns on short contact and is very injurious to the eyes.</p> <p>3.12 Odor Threshold: Currently not available</p> <p>3.13 IDLH Value: Not listed.</p> <p>3.14 OSHA PEL-TWA: Not listed.</p> <p>3.15 OSHA PEL-STEL: Not listed.</p> <p>3.16 OSHA PEL-Ceiling: Not listed.</p> <p>3.17 EPA AEGL: Not listed</p> |                |                          |

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|---|---|
| 4. FIRE HAZARDS   | 7. SHIPPING INFORMATION   |
| 4.1 Flash Point: >230°F C.C.  | 7.1 Grades of Purity: 99 + %  |
| 4.2 Flammable Limits in Air: Currently not available  | 7.2 Storage Temperature: Ambient                                    |
| 4.3 Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam, water spray.   | 7.3 Inert Atmosphere: Currently not available                       |
| 4.4 Fire Extinguishing Agents Not to Be Used: Water may not be effective.   | 7.4 Venting: Currently not available                                |
| 4.5 Special Hazards of Combustion Products: Currently not available   | 7.5 IMO Pollution Category: C                                       |
| 4.6 Behavior in Fire: Currently not available   | 7.6 Ship Type: 3  |
| 4.7 Auto Ignition Temperature: Currently not available  | 7.7 Barge Hull Type: Currently not available                        |
| 4.8 Electrical Hazards: Currently not available   | 8. HAZARD CLASSIFICATIONS   |
| 4.9 Burning Rate: Currently not available   | 8.1 49 CFR Category: Not listed.                                    |
| 4.10 Adiabatic Flame Temperature: Currently not available   | 8.2 49 CFR Class: Not pertinent.                                    |
| 4.11 Stoichiometric Air to Fuel Ratio: 66.6 (calc.)   | 8.3 49 CFR Package Group: Not listed.                               |
| 4.12 Flame Temperature: Currently not available   | 8.4 Marine Pollutant: No  |
| 4.13 Combustion Molar Ratio (Reactant to Product): 20.0 (calc.)   | 8.5 NFPA Hazard Classification: Not listed                          |
| 4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed   | 8.6 EPA Reportable Quantity: Not listed.                            |
| 5. CHEMICAL REACTIVITY  | 8.7 EPA Pollution Category: Not listed.                             |
| 5.1 Reactivity with Water: No reaction  | 8.8 RCRA Waste Number: Not listed                                   |
| 5.2 Reactivity with Common Materials: Corrosive solution, attacks most common metals.   | 8.9 EPA FWPCA List: Not listed                                      |
| 5.3 Stability During Transport: Stable  | 9. PHYSICAL & CHEMICAL PROPERTIES                                   |
| 5.4 Neutralizing Agents for Acids and Caustics: Sodium bicarbonate solution   | 9.1 Physical State at 15°C and 1 atm: Solid                         |
| 5.5 Polymerization: Will not occur  | 9.2 Molecular Weight: 172.27  |
| 5.6 Inhibitor of Polymerization: Not pertinent  | 9.3 Boiling Point at 1 atm: 514.4-518°F = 268-270°C = 541.2-543.2°K |
| 6. WATER POLLUTION  | 9.4 Freezing Point: 87.8-89.6°F = 31-32°C = 304.2-305.2°K           |
| 6.1 Aquatic Toxicity: Currently not available   | 9.5 Critical Temperature: Currently not available                   |
| 6.2 Waterfowl Toxicity: Currently not available   | 9.6 Critical Pressure: Currently not available                      |
| 6.3 Biological Oxygen Demand (BOD): Currently not available   | 9.7 Specific Gravity: 0.893   |
| 6.4 Food Chain Concentration Potential: Currently not available   | 9.8 Liquid Surface Tension: Currently not available                 |
| 6.5 GESAMP Hazard Profile: Bioaccumulation: 0<br>Damage to living resources: 2<br>Human Oral hazard: 0<br>Human Contact hazard: II<br>Reduction of amenities: XX  | 9.9 Liquid Water Interfacial Tension: Currently not available       |
| <p>9.10 Vapor (Gas) Specific Gravity: 5.94</p> <p>9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available</p> <p>9.12 Latent Heat of Vaporization: Currently not available</p> <p>9.13 Heat of Combustion: Currently not available</p> <p>9.14 Heat of Decomposition: Currently not available</p> <p>9.15 Heat of Solution: Currently not available</p> <p>9.16 Heat of Polymerization: Currently not available</p> <p>9.17 Heat of Fusion: Currently not available</p> <p>9.18 Limiting Value: Currently not available</p> <p>9.19 Reid Vapor Pressure: Currently not available</p> |   |

## NOTES

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| 9.20<br>SATURATED LIQUID DENSITY  |                       | 9.21<br>LIQUID HEAT CAPACITY  |                                     | 9.22<br>LIQUID THERMAL CONDUCTIVITY   |   | 9.23<br>LIQUID VISCOSITY  |            |   |
|---|-----------------------|---|-------------------------------------|---|---|---|------------|---|
| Temperature<br>(degrees F)  | Pounds per cubic foot | Temperature<br>(degrees F)  | British thermal unit per<br>pound-F | Temperature<br>(degrees F)  | British thermal unit inch<br>per hour-square foot-F | Temperature<br>(degrees F)  | Centipoise |   |
| C<br>U<br>R<br>R<br>E<br>N<br>T<br>L<br>Y<br><br>N<br>O<br>T<br><br>A<br>V<br>A<br>I<br>L<br>A<br>B<br>L<br>E |                       | C<br>U<br>R<br>R<br>E<br>N<br>T<br>L<br>Y<br><br>N<br>O<br>T<br><br>A<br>V<br>A<br>I<br>L<br>A<br>B<br>L<br>E |                                     | C<br>U<br>R<br>R<br>E<br>N<br>T<br>L<br>Y<br><br>N<br>O<br>T<br><br>A<br>V<br>A<br>I<br>L<br>A<br>B<br>L<br>E |   | C<br>U<br>R<br>R<br>E<br>N<br>T<br>L<br>Y<br><br>N<br>O<br>T<br><br>A<br>V<br>A<br>I<br>L<br>A<br>B<br>L<br>E |            | C<br>U<br>R<br>R<br>E<br>N<br>T<br>L<br>Y<br><br>N<br>O<br>T<br><br>A<br>V<br>A<br>I<br>L<br>A<br>B<br>L<br>E |

| 9.24<br>SOLUBILITY IN WATER   |                                   | 9.25<br>SATURATED VAPOR PRESSURE  |  | 9.26<br>SATURATED VAPOR DENSITY |   | 9.27<br>IDEAL GAS HEAT CAPACITY  |   |
|---|-----------------------------------|---|--|---------------------------------|---|--|---|
| Temperature<br>(degrees F)  | Pounds per 100 pounds<br>of water | Temperature<br>(degrees F)  | Pounds per square inch   | Temperature<br>(degrees F)      | Pounds per cubic foot   | Temperature<br>(degrees F)   | British thermal unit per<br>pound-F   |
| C<br>U<br>R<br>R<br>E<br>N<br>T<br>L<br>Y<br><br>N<br>O<br>T<br><br>A<br>V<br>A<br>I<br>L<br>A<br>B<br>L<br>E |                                   | 257<br>288<br>306<br>320<br>329<br>356<br>374<br>392<br>423<br>465<br>515 | 0.019<br>0.097<br>0.193<br>0.290<br>0.387<br>0.774<br>1.160<br>1.934<br>3.867<br>7.735<br>14.696 |                                 | C<br>U<br>R<br>R<br>E<br>N<br>T<br>L<br>Y<br><br>N<br>O<br>T<br><br>A<br>V<br>A<br>I<br>L<br>A<br>B<br>L<br>E | 0<br>25<br>50<br>75<br>100<br>125<br>150<br>175<br>200<br>225<br>250<br>275<br>300<br>325<br>350<br>375<br>400<br>425<br>450<br>475<br>500<br>525<br>550<br>575<br>600 | 0.320<br>0.333<br>0.346<br>0.359<br>0.372<br>0.384<br>0.396<br>0.408<br>0.420<br>0.431<br>0.443<br>0.454<br>0.464<br>0.475<br>0.485<br>0.496<br>0.506<br>0.515<br>0.525<br>0.534<br>0.544<br>0.553<br>0.561<br>0.570<br>0.579 |