

# STEARIC ACID

SRA

| CAUTIONARY RESPONSE INFORMATION   |                           |       |           | 4. FIRE HAZARDS   | 7. SHIPPING INFORMATION   |                  |                |                             |   |                    |   |                       |   |                         |   |
|---|---------------------------|-------|-----------|---|---|------------------|----------------|-----------------------------|---|--------------------|---|-----------------------|---|-------------------------|---|
| Common Synonyms<br>1-Heptadecane carboxylic acid<br>Octadecanoic acid<br>n-Octadecanoic acid<br>Stearophanic acid   | Solid<br>Floats on water. | White | Mild odor | <p><b>4.1 Flash Point:</b> (molten solid) 410–435°F O.C.; 365°F C.C.</p> <p><b>4.2 Flammable Limits in Air:</b> Not pertinent</p> <p><b>4.3 Fire Extinguishing Agents:</b> Foam, dry chemical, or carbon dioxide</p> <p><b>4.4 Fire Extinguishing Agents Not to Be Used:</b> Water or foam may cause frothing.</p> <p><b>4.5 Special Hazards of Combustion Products:</b> Currently not available</p> <p><b>4.6 Behavior in Fire:</b> Currently not available</p> <p><b>4.7 Auto Ignition Temperature:</b> 743°F</p> <p><b>4.8 Electrical Hazards:</b> Not pertinent</p> <p><b>4.9 Burning Rate:</b> Not pertinent</p> <p><b>4.10 Adiabatic Flame Temperature:</b> Currently not available</p> <p><b>4.11 Stoichiometric Air to Fuel Ratio:</b> 123.8 (calc.)</p> <p><b>4.12 Flame Temperature:</b> Currently not available</p> <p><b>4.13 Combustion Molar Ratio (Reactant to Product):</b> 36.0 (calc.)</p> <p><b>4.14 Minimum Oxygen Concentration for Combustion (MOCC):</b> N<sub>2</sub> diluent: 10.6%; CO<sub>2</sub> diluent: 13.0%</p>   | <p><b>7.1 Grades of Purity:</b> USP; Commercial; Triple pressed; Double pressed</p> <p><b>7.2 Storage Temperature:</b> Ambient</p> <p><b>7.3 Inert Atmosphere:</b> No requirement</p> <p><b>7.4 Venting:</b> Open</p> <p><b>7.5 IMO Pollution Category:</b> Currently not available</p> <p><b>7.6 Ship Type:</b> Currently not available</p> <p><b>7.7 Barge Hull Type:</b> Currently not available</p> |                  |                |                             |   |                    |   |                       |   |                         |   |
| Keep people away. Avoid contact with solid and dust. Call fire department. Notify local health and pollution control agencies.  |                           |       |           | <p><b>8. HAZARD CLASSIFICATIONS</b></p> <p><b>8.1 49 CFR Category:</b> Not listed</p> <p><b>8.2 49 CFR Class:</b> Not Pertinent</p> <p><b>8.3 49 CFR Package Group:</b> Not listed</p> <p><b>8.4 Marine Pollutant:</b> No</p> <p><b>8.5 NFPA Hazard Classification:</b></p> <table> <thead> <tr> <th>Category</th> <th>Classification</th> </tr> </thead> <tbody> <tr> <td>Health Hazard (Blue)</td> <td>1</td> </tr> <tr> <td>Flammability (Red)</td> <td>1</td> </tr> <tr> <td>Instability (Yellow)</td> <td>0</td> </tr> </tbody> </table> <p><b>8.6 EPA Reportable Quantity:</b> Not listed.</p> <p><b>8.7 EPA Pollution Category:</b> Not listed.</p> <p><b>8.8 RCRA Waste Number:</b> Not listed</p> <p><b>8.9 EPA FWPCA List:</b> Not listed</p>   |   | Category         | Classification | Health Hazard (Blue)        | 1 | Flammability (Red) | 1 | Instability (Yellow)  | 0 |                         |   |
| Category  | Classification            |       |           |   |   |                  |                |                             |   |                    |   |                       |   |                         |   |
| Health Hazard (Blue)  | 1                         |       |           |   |   |                  |                |                             |   |                    |   |                       |   |                         |   |
| Flammability (Red)  | 1                         |       |           |   |   |                  |                |                             |   |                    |   |                       |   |                         |   |
| Instability (Yellow)  | 0                         |       |           |   |   |                  |                |                             |   |                    |   |                       |   |                         |   |
| <p><b>Fire</b><br/>Combustible. Extinguish with dry chemicals, foam or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water.</p> <p><b>Exposure</b><br/>CALL FOR MEDICAL AID. DUST<br/>Irritating to eyes, nose and throat. If inhaled will cause coughing or difficult breathing. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.<br/><br/>SOLID<br/>Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.</p> <p><b>Water Pollution</b><br/>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.</p>   |                           |       |           | <p><b>9. PHYSICAL &amp; CHEMICAL PROPERTIES</b></p> <p><b>9.1 Physical State at 15° C and 1 atm:</b> Solid</p> <p><b>9.2 Molecular Weight:</b> (avg.) 282</p> <p><b>9.3 Boiling Point at 1 atm:</b> Not pertinent (decomposes)</p> <p><b>9.4 Freezing Point:</b> 157°F = 70°C = 343°K</p> <p><b>9.5 Critical Temperature:</b> Not pertinent</p> <p><b>9.6 Critical Pressure:</b> Not pertinent</p> <p><b>9.7 Specific Gravity:</b> 0.86 at 20°C (solid)</p> <p><b>9.8 Liquid Surface Tension:</b> Not pertinent</p> <p><b>9.9 Liquid Water Interfacial Tension:</b> Not pertinent</p> <p><b>9.10 Vapor (Gas) Specific Gravity:</b> Not pertinent</p> <p><b>9.11 Ratio of Specific Heats of Vapor (Gas):</b> Not pertinent</p> <p><b>9.12 Latent Heat of Vaporization:</b> Not pertinent</p> <p><b>9.13 Heat of Combustion:</b> -17,310 Btu/lb = -9,616 cal/g = -402.3 X 10<sup>6</sup> J/kg</p> <p><b>9.14 Heat of Decomposition:</b> Not pertinent</p> <p><b>9.15 Heat of Solution:</b> Not pertinent</p> <p><b>9.16 Heat of Polymerization:</b> Not pertinent</p> <p><b>9.17 Heat of Fusion:</b> Currently not available</p> <p><b>9.18 Limiting Value:</b> Currently not available</p> <p><b>9.19 Reid Vapor Pressure:</b> Currently not available</p> |   |                  |                |                             |   |                    |   |                       |   |                         |   |
| <p><b>1. CORRECTIVE RESPONSE ACTIONS</b></p> <p>Stop discharge<br/>Contain<br/>Collection Systems: Skim<br/>Clean shore line<br/>Salvage waterfowl</p> <p><b>2. CHEMICAL DESIGNATIONS</b></p> <p>2.1 CG Compatibility Group: Not listed.<br/>2.2 Formula: CH<sub>3</sub>(CH<sub>2</sub>)<sub>16</sub>CO<sub>2</sub>H<br/>2.3 IMO/UN Designation: Not listed<br/>2.4 DOT ID No.: Not listed<br/>2.5 CAS Registry No.: 57-11-4<br/>2.6 NAERG Guide No.: Not listed<br/>2.7 Standard Industrial Trade Classification: 51376</p> <p><b>3. HEALTH HAZARDS</b></p> <p>3.1 Personal Protective Equipment: For prolonged exposure to vapors, use air-supplied mask or chemical cartridge respirator; impervious gloves; goggles; impervious apron</p> <p>3.2 Symptoms Following Exposure: Compound is generally considered nontoxic. Inhalation of dust irritates nose and throat. Dust causes mild irritation of eyes.</p> <p>3.3 Treatment of Exposure: INGESTION: drink large volume of water; induce vomiting; call a physician. EYES: flush with clean water; if irritation, get medical attention. SKIN: wash thoroughly with soap and water.</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 0; LD<sub>50</sub> &gt;15 g/kg</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: Currently not available</p> <p>3.11 Liquid or Solid Characteristics: Currently not available</p> <p>3.12 Odor Threshold: 20 ppm</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 A EGL: Not listed</p> |                           |       |           | <p><b>6. WATER POLLUTION</b></p> <p><b>6.1 Aquatic Toxicity:</b> Currently not available</p> <p><b>6.2 Waterfowl Toxicity:</b> Currently not available</p> <p><b>6.3 Biological Oxygen Demand (BOD):</b> 144%, 5 days</p> <p><b>6.4 Food Chain Concentration Potential:</b> None</p> <p><b>6.5 GESAMP Hazard Profile:</b></p> <table> <tr> <td>Bioaccumulation:</td> <td>0</td> </tr> <tr> <td>Damage to living resources:</td> <td>0</td> </tr> <tr> <td>Human Oral hazard:</td> <td>0</td> </tr> <tr> <td>Human Contact hazard:</td> <td>I</td> </tr> <tr> <td>Reduction of amenities:</td> <td>X</td> </tr> </table>   |   | Bioaccumulation: | 0              | Damage to living resources: | 0 | Human Oral hazard: | 0 | Human Contact hazard: | I | Reduction of amenities: | X |
| Bioaccumulation:  | 0                         |       |           |   |   |                  |                |                             |   |                    |   |                       |   |                         |   |
| Damage to living resources:   | 0                         |       |           |   |   |                  |                |                             |   |                    |   |                       |   |                         |   |
| Human Oral hazard:  | 0                         |       |           |   |   |                  |                |                             |   |                    |   |                       |   |                         |   |
| Human Contact hazard:   | I                         |       |           |   |   |                  |                |                             |   |                    |   |                       |   |                         |   |
| Reduction of amenities:   | X                         |       |           |   |   |                  |                |                             |   |                    |   |                       |   |                         |   |
| 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       |
| NOT<br>PERTINENT                 |                       |                              | NOT<br>PERTINENT                    |                                     | NOT<br>PERTINENT                                    |                            | NOT<br>PERTINENT |

| 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 |
| INSOLUBLE                   |                                   |                                  | NOT<br>PERTINENT       |                                 | NOT<br>PERTINENT      |                                 | NOT<br>PERTINENT                    |