SAFETY DATA SHEET

1. Identification

Product Name
Sebacoyl chloride

Cat No.:
AC294900000; AC294900500; AC294902500; AC294905000

Synonyms
Sebacyl chloride

Recommended Use
Laboratory chemicals.

Uses advised against
No Information available

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Entity / Business Name
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information US call: 001-800-ACROS-01
Europe call: +32 14 57 52 11
Emergency Number US: 001-201-796-7100
Europe: +32 14 57 52 99
CHEMTREC Tel. No.US: 001-800-424-9300
Europe: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrosive to metals</td>
<td>Category 1</td>
</tr>
<tr>
<td>Acute oral toxicity</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin Corrosion/irritation</td>
<td>Category 1 B</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Target Organs - Respiratory system.</td>
<td></td>
</tr>
</tbody>
</table>

Label Elements

Signal Word
Danger

Hazard Statements
May be corrosive to metals
Harmful if swallowed
Fatal in contact with skin
Causes severe skin burns and eye damage
May cause respiratory irritation
Precautionary Statements
Prevention
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not get in eyes, on skin, or on clothing
Do not breathe dust/fume/gas/mist/vapors/spray
Keep only in original container
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Immediately call a POISON CENTER or doctor/physician
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
Ingestion
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Storage
Store locked up
Store in corrosive resistant polypropylene container with a resistant inliner
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Contact with water liberates toxic gas
Lachrymator (substance which increases the flow of tears)
Other hazards
Water reactive. May be harmful if inhaled.

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decanedioyl dichloride</td>
<td>111-19-3</td>
<td>&gt; 92</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>1-3</td>
</tr>
<tr>
<td>Decanedioic acid</td>
<td>111-20-6</td>
<td>1-3</td>
</tr>
</tbody>
</table>

4. First-aid measures

Eye Contact
Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact
Immediate medical attention is required. Wash off immediately with plenty of water for at least 15 minutes.

Inhalation
Immediate medical attention is required. If breathing is difficult, give oxygen. Move to fresh air. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance;
induce artificial respiration with a respiratory medical device.

Ingestion
Do not induce vomiting. Call a physician or Poison Control Center immediately.

Most important symptoms/effects
Causes burns by all exposure routes. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure and increased heart rate.

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Carbon dioxide (CO₂). Dry chemical. Chemical foam.

Unsuitable Extinguishing Media
DO NOT USE WATER

Flash Point
> 110 °C / > 230 °F
No information available

Autoignition Temperature
No information available

Explosion Limits
No data available

Sensitivity to Mechanical Impact
No information available

Specific Hazards Arising from the Chemical
Contact with water liberates toxic gas.

Hazardous Combustion Products
Hydrogen chloride gas Carbon monoxide (CO) Carbon dioxide (CO₂) Phosgene

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1</td>
<td>2</td>
<td>W</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
Use personal protective equipment. Ensure adequate ventilation. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental Precautions
See Section 12 for additional ecological information. Should not be released into the environment.

Methods for Containment and Clean Up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Do not expose spill to water. Do not let this chemical enter the environment.

7. Handling and storage

Handling
Ensure adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Keep under nitrogen. Do not get in eyes, on skin, or on clothing. Do not ingest. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not allow contact with water because of violent reaction.

Storage
8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>Ceiling: 2 ppm</td>
<td>Ceiling: 5 ppm</td>
<td>IDLH: 50 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ceiling: 7 mg/m³</td>
<td>Ceiling: 5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Vacated) Ceiling: 5 ppm</td>
<td>Ceiling: 7 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>Ceiling: 5 ppm</td>
<td>Ceiling: 5 ppm</td>
<td>CEV: 2 ppm</td>
</tr>
<tr>
<td></td>
<td>Ceiling: 7.5 mg/m³</td>
<td>Ceiling: 7 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State: Liquid
Appearance: Light yellow
Odor: Strong
Odor Threshold: No information available
pH: No information available
Melting Point/Range: -2.5 °C / 27.5 °F
Boiling Point/Range: 220 °C / 428 °F @ 75 mmHg
Flash Point: > 110 °C / > 230 °F
Evaporation Rate: No information available
Flammability (solid.gas): Not applicable
Flammability or explosive limits
Upper: No data available
Lower: No data available
Vapor Pressure: 75 mmHg @ 20 °C
Vapor Density: 8.25
Relative Density: 1.121
Solubility: No information available
Partition coefficient; n-octanol/water: No data available
Autoignition Temperature: No information available
Decomposition Temperature: No information available
Viscosity: No information available
**Molecular Formula**
C10 H16 Cl2 O2

**Molecular Weight**
239.14

---

## 10. Stability and reactivity

**Reactive Hazard**
Yes

**Stability**
Moisture sensitive. Contact with water liberates toxic gas.

**Conditions to Avoid**
Incompatible products. Exposure to moist air or water.

**Incompatible Materials**
Bases, Strong acids, Alcohols, Metals, Oxidizing agents

**Hazardous Decomposition Products**
Hydrogen chloride gas, Carbon monoxide (CO), Carbon dioxide (CO2), Phosgene

**Hazardous Polymerization**
Hazardous polymerization does not occur.

**Hazardous Reactions**
Water reactive.

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## 11. Toxicological information

### Acute Toxicity

**Product Information**
No acute toxicity information is available for this product

**Oral LD50**
Category 4. ATE = 300 - 2000 mg/kg.

**Dermal LD50**
Category 2. ATE = 50 - 200 mg/kg.

**Vapor LC50**
Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

### Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (mg/kg)</th>
<th>LD50 Dermal (mg/kg)</th>
<th>LC50 Inhalation (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decanedioyl dichloride</td>
<td>400 (Rat)</td>
<td>56 (Rabbit)</td>
<td>Not listed</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>238 - 277 (Rat)</td>
<td>5010 (Rabbit)</td>
<td>1.68 (Rat) 1 h</td>
</tr>
<tr>
<td>Decanedioic acid</td>
<td>3400 (Rat) 14375</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Toxicologically Synergistic Products**
No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation**
Causes burns by all exposure routes

**Sensitization**
No information available

**Carcinogenicity**
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decanedioyl dichloride</td>
<td>111-19-3</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Decanedioic acid</td>
<td>111-20-6</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Mutagenic Effects**
No information available

**Reproductive Effects**
No information available.

**Developmental Effects**
No information available.

**Teratogenicity**
No information available.

**STOT - single exposure**
Respiratory system

**STOT - repeated exposure**
None known

**Aspiration hazard**
No information available

**Symptoms / effects, both acute and**
Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness,
delayed and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure and increased heart rate

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity
Do not empty into drains. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>-</td>
<td>-</td>
<td>282 mg/L LC50 96 h</td>
<td>-</td>
</tr>
</tbody>
</table>

Persistence and Degradability
Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation
No information available.

Mobility
No information available.

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
UN-No: UN3129
Proper Shipping Name: WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.
Proper technical name: (SEBACOYL CHLORIDE)
Hazard Class: 4.3
Subsidiary Hazard Class: 8
Packing Group: I

TDG
UN-No: UN3129
Proper Shipping Name: WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.
Hazard Class: 4.3
Subsidiary Hazard Class: 8
Packing Group: I

IATA
UN-No: UN3129
Proper Shipping Name: WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.*
Hazard Class: 4.3
Subsidiary Hazard Class: 8
Packing Group: I

IMDG/IMO
UN-No: UN3129
Proper Shipping Name: WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.
Hazard Class: 4.3
Subsidiary Hazard Class: 8
Packing Group: I

15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decanedioyl dichloride</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>203-843-4</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>231-595-7</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Decanedioic acid | X | X | - | 203-845-5 | - | X | X | X | X | X | X

Legend:
- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>1-3</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Categorization

- Acute Health Hazard: Yes
- Chronic Health Hazard: No
- Fire Hazard: No
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: Yes

Clean Water Act

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>X</td>
<td>5000 lb</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Clean Air Act

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
<th>Class 1 Ozone Depleters</th>
<th>Class 2 Ozone Depleters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OSHA Occupational Safety and Health Administration

<table>
<thead>
<tr>
<th>Component</th>
<th>Specifically Regulated Chemicals</th>
<th>Highly Hazardous Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>-</td>
<td>TQ: 5000 lb</td>
</tr>
</tbody>
</table>

CERCLA

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>5000 lb</td>
<td>5000 lb</td>
</tr>
</tbody>
</table>

California Proposition 65 This product does not contain any Proposition 65 chemicals

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant: N
DOT Severe Marine Pollutant  N

U.S. Department of Homeland Security
This product contains the following DHS chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>DHS Chemical Facility Anti-Terrorism Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>0 lb STQ (anhydrous); 11250 lb STQ (37% concentration or greater)</td>
</tr>
</tbody>
</table>

Other International Regulations

Mexico - Grade  No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

16. Other information

Prepared By  Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date  08-Mar-2012
Revision Date  07-May-2015
Print Date  07-May-2015
Revision Summary  This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS