

Hazard Statements

May be corrosive to metals
 Harmful if swallowed
 Fatal in contact with skin
 Toxic if inhaled
 Causes severe skin burns and eye damage
 May cause respiratory irritation
 In contact with water, releases gases which are toxic if inhaled
 Lachrymator

**Precautionary Statements****Prevention**

Do not allow contact with water
 Do not breathe dust/fumes/gas/mist/vapours/spray
 Use only outdoors or in a well-ventilated area
 Keep only in original container
 Do not get in eyes, on skin, or on clothing
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing/eye protection/face protection

Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
 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/doctor
 Wash contaminated clothing before reuse

Storage

Store locked up
 Store in corrosive resistant polypropylene container with a resistant inliner
 Store in a well-ventilated place. Keep container tightly closed
 Store in a dry place

Disposal

Dispose of contents/container to an approved waste disposal plant

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|------------------------|-----------|----------|
| Decanedioyl dichloride | 111-19-3 | > 92 |
| Hydrochloric acid | 7647-01-0 | 1-3 |
| Decanedioic acid | 111-20-6 | 1-3 |

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. Move to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If not breathing, give artificial respiration. |
| 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. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | Carbon dioxide (CO ₂). Dry chemical. Chemical foam. |
| Unsuitable Extinguishing Media | DO NOT USE WATER |
| Flash Point | > 110 °C / > 230 °F |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| Upper | No data available |
| Lower | No data available |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | 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

| | | | |
|---------------|---------------------|--------------------|-------------------------|
| Health | Flammability | Instability | Physical hazards |
| 4 | 1 | 2 | W |

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/vapors/spray. Do not allow contact with water because of violent reaction.

Storage Corrosives area. Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep under nitrogen. Keep away from water.

8. Exposure controls / personal protection

Exposure Guidelines

| Component | Alberta | British Columbia | Ontario TWAEV | Quebec | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|-------------------|--|------------------|---------------|--|----------------|--|--|
| Hydrochloric acid | Ceiling: 2 ppm Ceiling: 3 mg/m ³ | Ceiling: 2 ppm | CEV: 2 ppm | Ceiling: 5 ppm Ceiling: 7.5 mg/m ³ | Ceiling: 2 ppm | Ceiling: 5 ppm Ceiling: 7 mg/m ³ (Vacated) Ceiling: 5 ppm (Vacated) Ceiling: 7 mg/m ³ | IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³ |

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.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | Glove comments |
|----------------|-----------------------------------|-----------------|------------------------|
| Natural rubber | See manufacturers recommendations | - | Splash protection only |
| Nitrile rubber | | | |
| Neoprene | | | |
| PVC | | | |
| Butyl rubber | | | |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. 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.

Recommended Filter type: Organic gases and vapours filter Type A Brown conforming to EN14387

Environmental exposure controls

No information available.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

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 |
| Specific Gravity | 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 (CO ₂), Phosgene |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | Water reactive. |

11. Toxicological information

Acute Toxicity**Product Information****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

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------------------|--------------------------|-------------------------|-----------------------|
| Decanedioyl dichloride | LD50 = 400 mg/kg (Rat) | 56 mg/kg (Rabbit) | Not listed |
| Hydrochloric acid | 238 - 277 mg/kg (Rat) | > 5010 mg/kg (Rabbit) | 1.68 mg/L (Rat) 1 h |

| | | | |
|------------------|---|-------------------|------------|
| Decanedioic acid | LD50 = 3400 mg/kg (Rat) LD50 = 14375 mg/kg (Rat) | >2000 mg/kg (Rat) | Not listed |
|------------------|---|-------------------|------------|

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.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|------------------------|-----------|------------|------------|------------|------------|------------|
| Decanedioyl dichloride | 111-19-3 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Hydrochloric acid | 7647-01-0 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Decanedioic acid | 111-20-6 | Not listed | Not listed | Not listed | Not listed | Not listed |

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 delayed 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: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

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.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|-------------------|------------------|--|------------|-------------------------|
| Hydrochloric acid | - | 282 mg/L LC50 96 h Gambusia affinis mg/L LC50 48 h Leuciscus idus | - | 56mg/L EC50 72h Daphnia |
| Decanedioic acid | Not listed | LC50 >100 mg/L/96h (Brachydanio rerio) | Not listed | EC50 >100 mg/L/48h |

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Is not likely mobile in the environment.

| Component | log Pow |
|------------------|---------|
| Decanedioic acid | 1.5 |

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 UN2922
Proper Shipping Name CORROSIVE LIQUIDS, TOXIC, N.O.S.
Proper technical name Decanedioyl dichloride, Hydrochloric acid
Hazard Class 8
Subsidiary Hazard Class 6.1
Packing Group II

TDG

UN-No UN2922
Proper Shipping Name CORROSIVE LIQUID, TOXIC, N.O.S.
Hazard Class 8
Subsidiary Hazard Class 6.1
Packing Group II

IATA

UN-No UN2922
Proper Shipping Name CORROSIVE LIQUID, TOXIC, N.O.S.
Hazard Class 8
Subsidiary Hazard Class 6.1
Packing Group II

IMDG/IMO

UN-No UN2922
Proper Shipping Name CORROSIVE LIQUID, TOXIC, N.O.S.
Hazard Class 8
Subsidiary Hazard Class 6.1
Packing Group II

15. Regulatory information

International Inventories

| Component | DSL | NDSL | TSCA | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|------------------------|-----|------|------|-----------|--------|-----|-------|------|------|-------|----------|
| Decanedioyl dichloride | X | - | X | 203-843-4 | - | | X | X | X | X | KE-30910 |
| Hydrochloric acid | X | - | X | 231-595-7 | - | | X | X | X | X | KE-20189 |
| Decanedioic acid | X | - | X | 203-845-5 | - | | X | X | X | X | KE-09402 |

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

| Component | Canada - National Pollutant Release Inventory (NPRI) | Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances | Canada's Chemicals Management Plan (CEPA) |
|-------------------|--|---|---|
| Hydrochloric acid | Part 1, Group A Substance | | |

16. Other information

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

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Disclaimer

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End of SDS