

Chemistry

MATERIAL SAFETY DATA SHEET

Johnson Matthey Catalog Chemicals  
Aesar Group/Alfa Products  
152 Andover Street  
Danvers, MA 01923  
Emergency Phone-(508) 777-1970

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IDENTIFICATION

Product Code: 32240 Revision Date: 4/89  
Product Name: Adipoyl chloride  
Formula: C10H16Cl2O4  
Chemical Nature: Acid chloride  
% Activity: 100%

PHYSICAL DATA

Boiling Point: 105-107°C/2mm Hg  
Freeze Point: No data  
Specific Gravity: 1.26  
Vapor Pressure at 20°C: No data  
Vapor Density (Air=1): No data  
Solubility in H2O: Reacts  
Percent Volatiles by Weight: No data  
Ionic Nature: No  
Appearance and Odor: Dark liquid, pungent odor

HAZARDOUS INGREDIENTS

Material	%	TLV/PEL
Adipoyl chloride	100%	Not established
CAS# 111-50-2		

FIRE AND EXPLOSION HAZARD DATA

Flash Point: >230°F  
Autoignition Temperature: Not established  
Flammable Limits in Air, % by volume: Lower No data  
Upper No data  
Extinguishing Media: Non-combustible. DO NOT USE WATER. Use potassium bicarbonate, (urea-based) dry chemical agent such as MONNEX, carbon dioxide is effective at close range only.  
Special Fire Fighting Procedures: No special firefighting procedures needed. Use normal procedures which include wearing NIOSH/MSHA approved self-contained breathing apparatus, flame and chemical resistant clothing, hats, boots and gloves. If without risk, remove material from fire area. Cool container with water from maximum distance.

**Unusual Fire and Explosion Hazards:** Water hydrolyzes adipoyl chloride, liberating hydrogen chloride, which in contact with metals can generate flammable hydrogen gas.

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**HEALTH HAZARD DATA**  
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**Threshold Limit Value:** Not established  
**Effects of Overexposure:** Acid chlorides such as adipoyl chloride are extremely irritating to the airway, eyes and skin. Symptoms of exposure include burning sensations, coughing, wheezing, shortness of breath, headache, nausea and vomiting. Eye contact causes pain, tearing, inflammation and possible destruction of the eye. Skin contact will cause severe burns.  
**Emergency and First Aid Procedures:** Remove from exposure. **Eyes:** Flush with copious amounts of water for at least 15 minutes. **Skin:** Remove any contaminated clothing. Flood skin with large volumes of water for 15 minutes. **Ingestion/Inhalation:** Seek prompt, competent medical attention.

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**REACTIVITY DATA**  
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**Stability:** Stable  
**Conditions to Avoid:** Extreme heat, moisture, sources of ignition  
**Incompatibility:** Water, alcohols, alkali, oxidizers and certain hydrogen-containing materials.  
**Hazardous Decomposition Products:** Hydrogen chloride  
**Hazardous Polymerization:** Will not occur  
**Conditions to Avoid:** Not applicable

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**SPILL OR LEAK PROCEDURES**  
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**Steps to be Taken if Material is Released or Spilled:** Wearing full protective clothing and respiratory protection, eliminate all sources of ignition. Cover spill with dry sand or dry vermiculite, mix well and carefully transfer to a well-marked container. Close container tightly. Submit or retain for disposal.  
**Waste Disposal Method:** Consult state, local, and federal regulations for proper disposal of adipoyl chloride.

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**SPECIAL PROTECTION INFORMATION**  
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**Respiratory Protection:** NIOSH/MSHA approved high efficiency particulate respirator for ordinary use and self-contained breathing apparatus for emergency use.  
**Ventilation- Local exhaust:** Adequate  
    **Mechanical:** Fume hood  
    **Special:** Not applicable  
    **Other:** Not applicable  
**Protective Gloves:** Rubber  
**Eye Protection:** OSHA approved safety goggles

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**Other Protective Equipment:** Lab coat and apron, flame and chemical resistant coveralls, eyewash capable of sustained flushing, safety drench shower and hygienic facilities for washing.

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**SPECIAL PRECAUTIONS**

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**Precautionary Labeling:** Warning! Corrosive Liquid!  
**Other Handling and Storage Conditions:** Keep container tightly closed. Store in a cool, dry, well-ventilated area. Wash thoroughly after use. Segregate containers from caustic or basic materials and oxidizing agents. Keep away from moisture.

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