

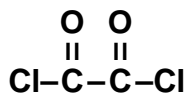
Oxalyl Chloride

PRODUCT No.
O-880-1

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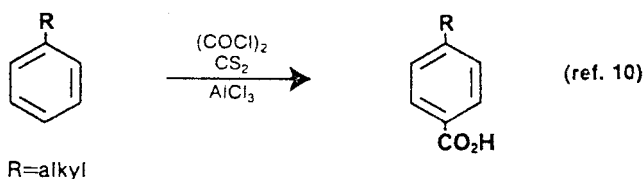
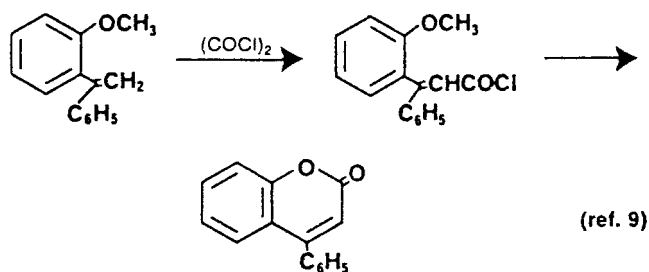
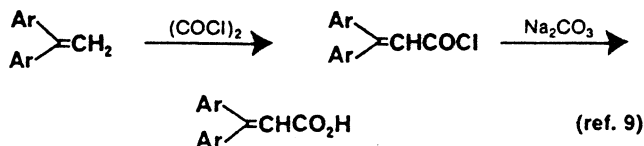
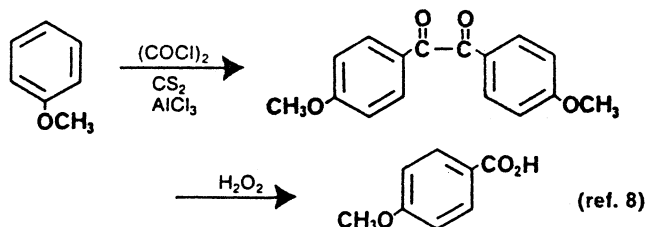
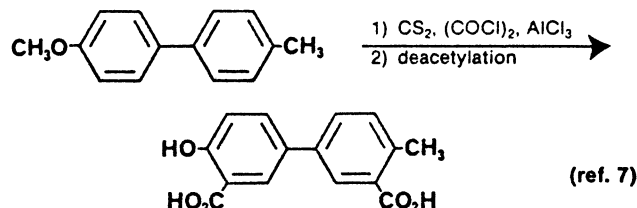
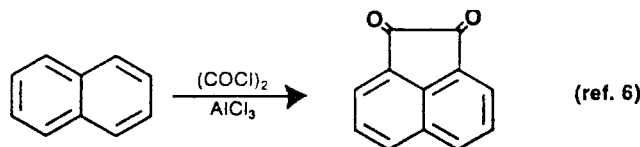
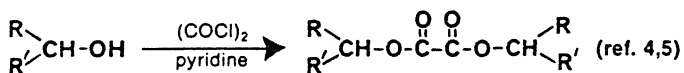
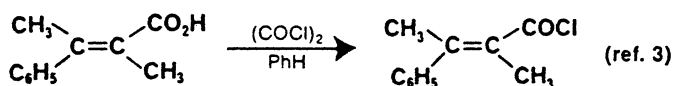
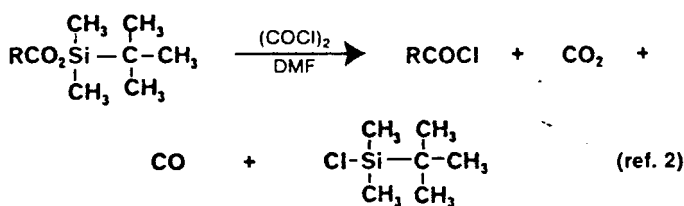
For many years we have supplied much of the world's needs for research quantities of oxalylchloride.¹ Now, we are also in a position to supply bulk quantities of this versatile reagent.

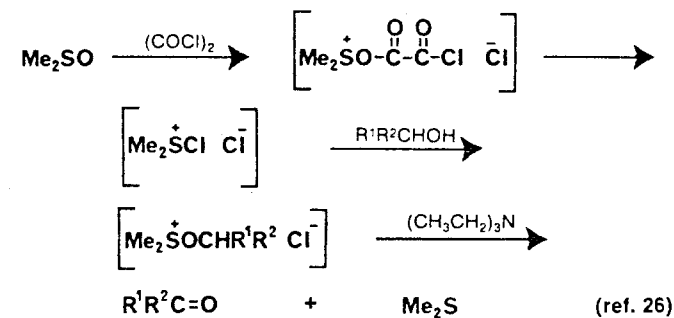
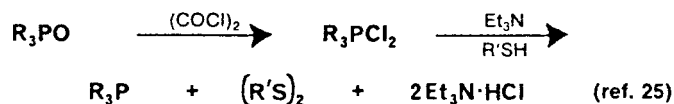
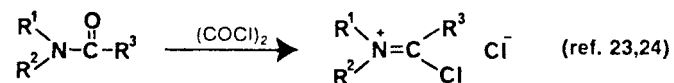
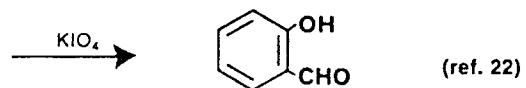
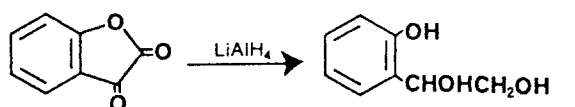
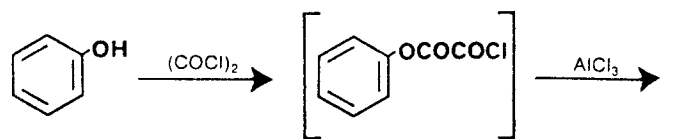
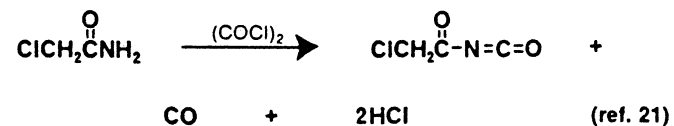
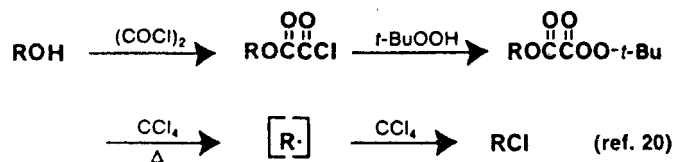
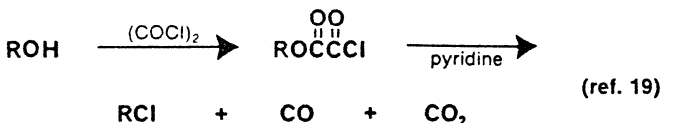
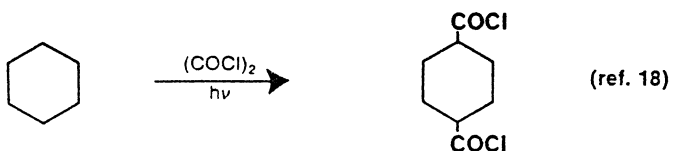
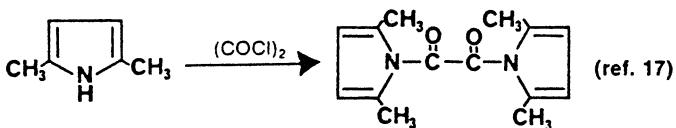
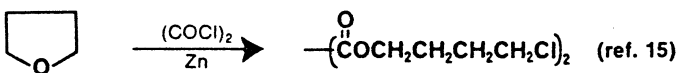
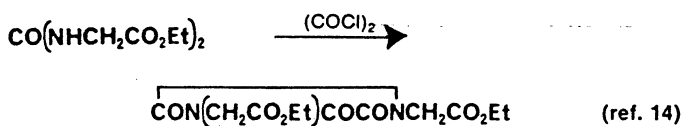
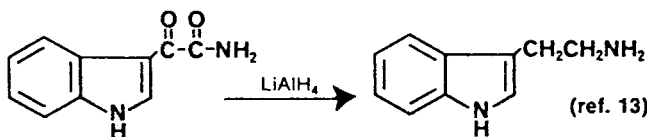
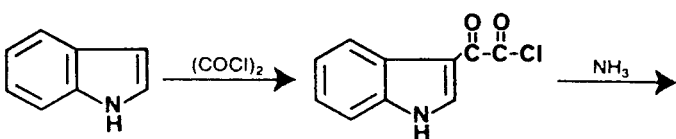
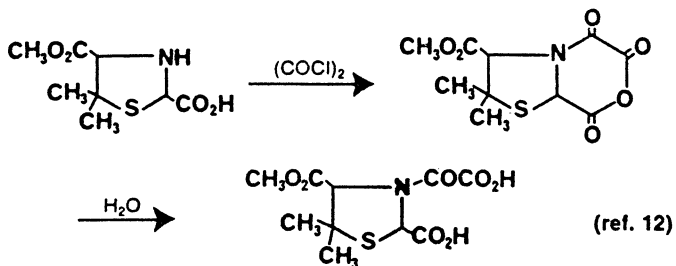
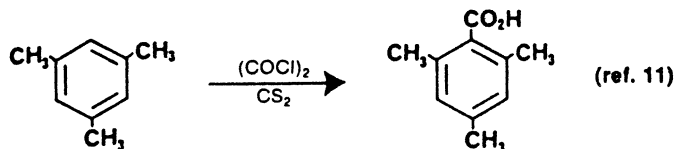


PROPERTIES:

• Molecular formula	C ₂ Cl ₂ O ₂
• Molecular weight	126.93
• Purity	99% (with practically no heavy metal impurities)
• Color	Colorless
• Boiling point	63-64°
• Melting point	-10 to -8°
• Specific gravity	1.455
• Refractive index, n _D ²⁰	1.4305

Some of the many uses of oxalyl chloride are shown below:





OTHER USES OF OXALYL CHLORIDE INCLUDE:

1. Stabilizer for color photographic material²⁷
2. Formation of monomers of thermally stable polymers²⁸⁻³⁰
3. Formation of polyamides useful as UV absorbers³¹
4. Polymerization catalyst³²
5. Polymer crosslinking agent³³
6. Production of resins for affinity chromatography³⁴
7. Production of photopolymerizable printing materials³⁵
8. Chemiluminescent formulations^{36,37}
9. Formation of X-ray contrasting agents³⁸
10. Preparation of antioxidants³⁹

HANDLING

Oxalyl chloride is a corrosive respiratory irritant and lachrymator. The vapors will attack the skin, eyes and especially the mucous membranes of the nose and throat and respiratory system. This material should be used only in a well ventilated area.

EMERGENCY PROCEDURES

FIRE

Extinguish with dry powder or carbon dioxide. Do not use water. Oxalyl chloride decomposes upon contact with water to produce toxic and corrosive fumes. When heated to decomposition, product emits toxic fumes.

SPILL

Wear self-contained breathing apparatus and gloves. Spread soda ash liberally over spill and clean up cautiously with plenty of water.

SKIN CONTACT

Wash with copious amounts of soap and water.

EYE CONTACT

Flush thoroughly with water. Consult an eye physician.

WASTE DISPOSAL

Carefully mix acidic compound with dry sodium bicarbonate. Dilute slowly with water and wash down the drain with copious amounts of water.

REACTIVITY

Product is sensitive to temperatures below -10° and above 40°C . It reacts vigorously with water and hydroxyl compounds.

STORAGE

Store in a cool, dry, and well ventilated area.

If you need further information on oxalyl chloride and its applications, please contact us at your convenience.

This information is presented to assist you in evaluating our product. It is intended for use by persons having technical skill, at their own discretion and risk. We do not guarantee favorable results, and we assume no liability in connection with its use. This information is not intended as a license to operate under, or a recommendation to infringe, any patent covering any material or use. Product No. O-880-1 is industrial grade and is not intended for food, drug, cosmetic or household use.

REFERENCES

- 1• R. Adams and L.H. Ulich, *J. Am. Chem. Soc.*, **42**, 599 (1920).
- 2• A. Wissner and C.V. Grudzinskas, *J. Org. Chem.*, **43**, 3972 (1978).
- 3• A. Balsamo, P.L. Barili, P. Crotti, B. Macchia, A. Pecchia, A. Cuttica, and N. Passerini, *J. Med. Chem.*, **18**, 842 (1975).
- 4• R. Adams, W.V. Wirth and H.E. French. *J. Am. Chem. Soc.*, **40**, 424 (1918).
- 5• Y. Mikshich and Z. Pinterovich, *Bull. Soc. Chem. Roy Yugoslav.*, **1**, 9 (1930); *Chem. Abstr.*, **25**, 4246 (1931).
- 6• L. Lesser and G. Gad, *Ber.*, **60B**, 242 (1927).
- 7• N. Chatterjee, *J. Ind. Chem. Soc.*, **12**, 690 (1935).
- 8• P.C. Mitter and H. Mukherjee, *ibid.*, **16**, 393 (1939).
- 9• F. Bergmann, M. Weizmann, E. Dimant, J. Patai, and J. Szmuskowicz, *J. Am. Chem. Soc.*, **70**, 1612 (1948).
- 10• H.A. Fahim, *Nature*, **162**, 526 (1948).
- 11• G.A. Varvoglis and N.E. Alexandrou, *Chem. Chronika (Athens)*, **26**, 137, (1961); *Chem. Abstr.*, **56**, 3378 (1962).
- 12• R. Bentley, A.H. Cook, J.A. Elvidge and G. Shaw, *J. Chem. Soc.*, 2351 (1949).
- 13• M.E. Speeter and W.C. Anthony, *J. Am. Chem. Soc.*, **76**, 6208 (1954).
- 14• Cassella Farbwerke Mainkur Akt.-Ges., Brit. Patent 727,246 (1955); *Chem. Abstr.*, **50**, 5037 (1956).
- 15• F. Boberg and G.R. Schultze, *Z. Naturforsch.*, **11b**, 421 (1956).
- 16• VEB Hydrierwerk Zeitz, East German Patent 13,495 (1957); *Chem. Abstr.*, **53**, 7196 (1959).
- 17• C.D. Nenitzescu, I. Necsoiu, and M. Zalman, *Comun. Acad. Rep. Populare Romine*, **8**, 659 (1958); *Chem. Abstr.*, **53**, 17092 (1959).
- 18• A.I. Gershenovich and A.K. Mikhailova; *Chem. Abstr.*, **62**, 6404 (1965).
- 19• S.J. Rhoads and R.E. Michel, *J. Am. Chem. Soc.*, **85**, 585 (1963).
- 20• F.R. Jensen and T.I. Moder, *ibid.*, **97**, 2281 (1975).
- 21• A.J. Speziale and L.R. Smith. *J. Org. Chem.*, **27**, 3742 (1962); *ibid.*, **28**, 1805 (1963); *Org. Syn.*, **46**, 16 (1966).
- 22• D.J. Zwanenburg and W.A.P. Reynen, *Synthesis*, 624 (1976).
- 23• R. Imhof, D.W. Ladner, and J.M. Muchowski, *J. Org. Chem.*, **42**, 3709 (1977).
- 24• E. Kirii, M. Moriwaki, M. Abe, and Y. Ikeda, Japan. Kokai 77 73, 890 (1977); *Chem. Abstr.*, **88**, 6871y (1978).
- 25• M. Masaki and K. Fukui, *Chem. Lett.*, 151 (1977)
- 26• A.J. Mancuso, D.S. Brownfain, and D. Swern, *J. Org. Chem.*, **44**, 4148 (1979).
- 27• K. Lohmer, A. Von Koenig, S. Schuetz, and J. Stoltefuss, Ger. Offen. 2,460,330 (1976); *Chem. Abstr.*, **86**, 148775c (1977).
- 28• R.F. Kovar and F.E. Arnold, U.S. Patent 3,975,444 (1976); *Chem. Abstr.*, **86**, 90836e (1977).
- 29• N.S. Zabel'nikov, O.A. Agapov, and V.D. Vorob'ev, *Plast. Massy*, 72 (1977); *Chem. Abstr.*, **88**, 51411 (1978).
- 30• F.P. Darmory and M. Dibenedetto, U.S. Patent 4,016,173 (1977); *Chem. Abstr.*, **87**, 24139z (1977).
- 31• F. Alfes, W. Jacob, K.H. Meyer, and L. Bottenbruch, Ger. Offen. 2,516,684 (1976); *Chem. Abstr.*, **86**, 90828d (1977).
- 32• A. Priola, S. Cesca, G. Ferraris, M.B. Boy, and P. Giusti, Ger. Offen. 2,257,465 (1973); *Chem. Abstr.*, **79**, 54650m (1973).
- 33• B.P. Thill, D.A. Tomalia, J.D. DeVrieze, and R.J. Dolinski, *Am. Chem. Soc., Div. Org. Coat. Plast. Chem., Pap.*, **34**, 695 (1974); *Chem. Abstr.*, **84**, 60292r (1976).
- 34• F. Seela and W. Wesemann, *Z. Naturforsch., Teil. C*, **29**, 248 (1974).
- 35• R. J. Faust, Ger. Offen. 2,053,683 (1972); *Chem. Abstr.*, **77**, 158785j (1972).
- 36• American Cyanamid Co., Neth. Appl. 76 14,490, 76 14,491 (1977); *Chem. Abstr.*, **88**, 50175y, 50174x (1978).
- 37• S. Tseng, A.G. Mohan, L.G. Haines, L.S. Vizcarra, and M.M. Aruhut, *J. Org. Chem.*, **44**, 4113 (1979).
- 38• E. Klieger, U. Speck, and E. Schroeder, Ger. Offen. 2,554,148 (1977); *Chem. Abstr.*, **87**, 117683n (1977).
- 39• J.W. Scott, D.R. Parrish, and G. Saucy, U.S. Patent 4,018, 799 (1977); *Chem. Abstr.*, **87**, 68154e (1977).

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