

PATENTED USES OF DIETHYL DISULFIDE

Diethyl Disulfide (CAS No. 110-81-6) is a non-ionic, transparent yellow liquid. While this disulfide can be split both photochemically and catalytically to form two ethylthio units, the high thermal stability of the disulfide bond results in several advantages in easier handling over the mercaptan. Some of these advantages are less odor, higher boiling point (154EC vs. 36EC for ethyl mercaptan) and higher flash point (40EC vs. below -18EC for ethyl mercaptan).

Because of these significant advantages, Diethyl Disulfide is being used in many applications over a wide variety of areas described below. (References shown are just a demonstration as to the wide scope of this product):

Lubricating-Oil Additive. B. McKinnie, P. Rankin assignors to Ethyl Corporation. European Patent Application 122203, 10/17/84.

Diethyl Disulfide is reacted with phenol to produce an (ethylthio) phenol derivative useful as an inhibitor in lubricants against oxidation.

Orto-(Alkylthio) Phenol. B. McKinnie, P. Rankin assignors to the Ethyl Corporation, United States Patent 4324920, 3/13/82.

Phenols, unsubstituted in at least one ortho position, react in the presence of a catalyst with an alkyl disulfidesuch as Diethyl Disulfide to yield the title compound $[2-(\text{CH}_3\text{CH}_2\text{S})-\text{C}_6\text{H}_4\text{OH}]$.

Drug Synthesis Tejin LTD., Japanese Patent 57/4971, 1/11/82.

Diethyl Disulfide was used as a reactant in the synthesis of an acylindole derivative found to have platelet aggregation inhibitory activity.

Extraction Solvent for Elemental Sulfur A. Fuhkriev et. al. assignors to the All-Union Scientific-Research Institute or Hydrocarbon Raw Materials (USSR), USSR Patent SU 937328, 6/23/82.

Elemental sulfur was found to be more efficiently extracted into a solution mixture containing a disulfide such as Diethyl Disulfide.

Polymerization Inhibitor P. Buergle, K. Maurer, W. Roskopp, F. Wenzel, assignors to Roehm G.m.b.H., German Patent DE 2941959, 4/30/81.

Large viscosity increases in the syrup stage of the free radical polymerization of methyl methacrylate are prevented by using a percarbonate catalyst and a polymerization inhibitor such as Diethyl Disulfide.

Sulfur Treatment of a Polymerization Catalyst M. McDaniel, M. Welsh assignors to Phillips Petroleum Co., European Patent Application EP 2272, 6/13/79.

Sulfur compounds such as Diethyl Disulfide are used to prepare silicone supported chromium catalysts used in the

production of polyolefins for injection molding.

Catalyst Regulator J. Scheban assignor to National Distillers and Chemical Corporation, German Patent DE 274551, 5/24/78.

Diethyl Disulfide is the preferred platinum catalyst regulator, useful for enhancing the production of benzaldehyde by several fold.

Insecticide Production H. Bayer, W. Hurt, assignors to Rohm and Haas Co., German Patent DE 2635931, 3/3/77.

Dialkyl Disulfides such as diethyl disulfide were used in the preparation of an organophosphorous derivative useful as an insecticide.

Synthetic Flavoring Additive W. Evers, H. Heinsohn Jr., M. Vock, assignors to International Flavors and Fragrances Inc., German Patent DE 2604340, 9/9/76.

Diethyl Disulfide is used in the preparation of a meat-flavoring additive, 3-furyalkyldisulfide.

Rubber Monsanto Co., British Patent GB 1303346, 1/17/73.

Diethyl Disulfide was found to be a useful reagent in stabilizing the sulfenamides which are used as inhibitors of premature vulcanization.

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