



Methylene Chloride End Use Applications

Aerosol Grade: Aerosol grade methylene chloride is a higher stabilized product for applications in aerosol packages and adhesive and paint formulations. Methylene chloride is used in aerosols as a strong solvent, a flammability suppressant, vapor pressure depressant, and viscosity thinner. Methylene chloride is an important solvent in adhesive formulations where its strong dissolving power, low flammability and rapid drying time are essential. These same fast-drying, low flammability and high solubility properties make methylene chloride an excellent solvent in paint formulations. The additional stabilizer helps protect the equipment utilized in non-packaged aerosol applications, as well as additional protection to the application substrate. The EPA suggests methylene chloride as a replacement for 1,1,1-trichloroethane under its Significant New Alternative Policy (SNAP).

Decaffeination Grade: Decaffeination grade methylene chloride is a low stabilized, higher purity methylene chloride used as an extractant in the recovery and purification of a wide variety of materials. As a result of methylene chloride's powerful solvent action and stability, it is used in the extraction of naturally occurring heat-sensitive substances such as fats, butter, caffeine, cocoa, hops, and extraction of pharmaceutically active natural products. Methylene chloride is used as an effective reaction and re-crystallization solvent in the extraction of several pharmaceutical compounds and in the production of many antibiotics and vitamins. The chemical also has been used as a carrier for pharmaceutical tablet coating for which the Food and Drug Administration (FDA) has established residue tolerances. This grade

meets the testing requirements of the *Food Chemical Codex*, 10th Edition, the *ACS Specification for Reagent Chemicals*, for General Use, 11th Edition, ASTM Specification D 4701-00, and *National Formulary* 35. Decaffeination Food Grade Methylene Chloride is also available which complies with FDA FSMA Preventive Control Rules for Human Food. Decaffeination Food Grade Methylene Chloride is produced under current Good Manufacturing Practices (cGMP), and meets the Global Food Safety Initiative by being produced at a current SQF Level 2 certified facility. Decaffeination Food Grade must be specified when ordering.

Degreasing Grade: This grade of methylene chloride contains a specifically formulated three-part stabilizer package for use in vapor degreasing applications.

Due to methylene chloride's relatively low boiling point (104.2°F), this solvent is utilized in the degreasing of temperature sensitive parts, or where immediate handling is required. This product meets the requirements of ASTM Specification D 4079-00.

Special Grade: OxyChem's Special Grade of methylene chloride has become widely used to replace fluorocarbons as an auxiliary-blowing agent in the production of slabstock flexible polyurethane foams for the furniture and bedding industries. Evaporation of the solvent during production of the urethane polymer expands the cells of the foam, reducing its density without making it stiff or rigid. The auxiliary blowing agent also helps to control the reaction temperature, which otherwise could get sufficiently high to burn or scorch the foam interior.

520-104 Methylene Chloride 09/2018



Basic Chemicals

Technical Grade: OxyChem's technical grade methylene chloride is inhibited with one of two stabilizers: cyclohexane or amylene. Methylene chlorides aggressive solvency makes it an ideal paint remover and paint mask cleaner. Formulations of the chemical are used extensively in both flow-over and immersion tanks in furniture finishing operations. It has no flash point under normal use conditions and can be used to reduce the flammability of other substances, decreasing the chance of in-plant fire or explosion. Methylene chloride is widely used in the electronics industry for the production of printed circuit boards. Methylene chloride is employed in the manufacture of polycarbonate resin used for the production of thermoplastics. It is used as a solvent in the production of cellulose triacetate, which serves as a base for photographic film. Other applications include use in the solvent welding of plastic parts and as a releasing agent to prevent the manufactured part from permanently bonding to the mold. The grade meets the requirements of the *Food Chemical Codex*, 10th Edition, the *ACS Specification for Reagent Chemicals*, General Use, 11th Edition, ASTM Specification D4701-00, and *National Formulary* 35. Food Grade Methylene Chloride is also available which complies with FDA FSMA Preventive Control Rules for Human Food. Food Grade Methylene Chloride is produced under current Good Manufacturing Practices (cGMP), and meets the Global Food Safety Initiative by being produced at a current SQF Level 2 certified facility. Food Grade must be specified when ordering.

Further Information

More detailed information on chlorinated solvent regulatory issues is available upon request through the OxyChem Technical Services Department. Call or write to:

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520-104 Methylene Chloride 09/2018



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