

Dechlorane Plus[®]

(C₁₈H₁₂Cl₁₂)

CAS Registry Number 13560-89-9

(Dechlorane Plus is a registered trademark
of Oxychem[®])

Dechlorane Plus 515, 25, and 35 flame-retardant additives are highly effective, aliphatic chlorine-containing crystalline organic compounds, ground to free-flowing, white powders. They are the same chemical compound, differing only in particle size. The Dechlorane Plus additives are used as non-plasticizing flame-retardants in polymeric systems.

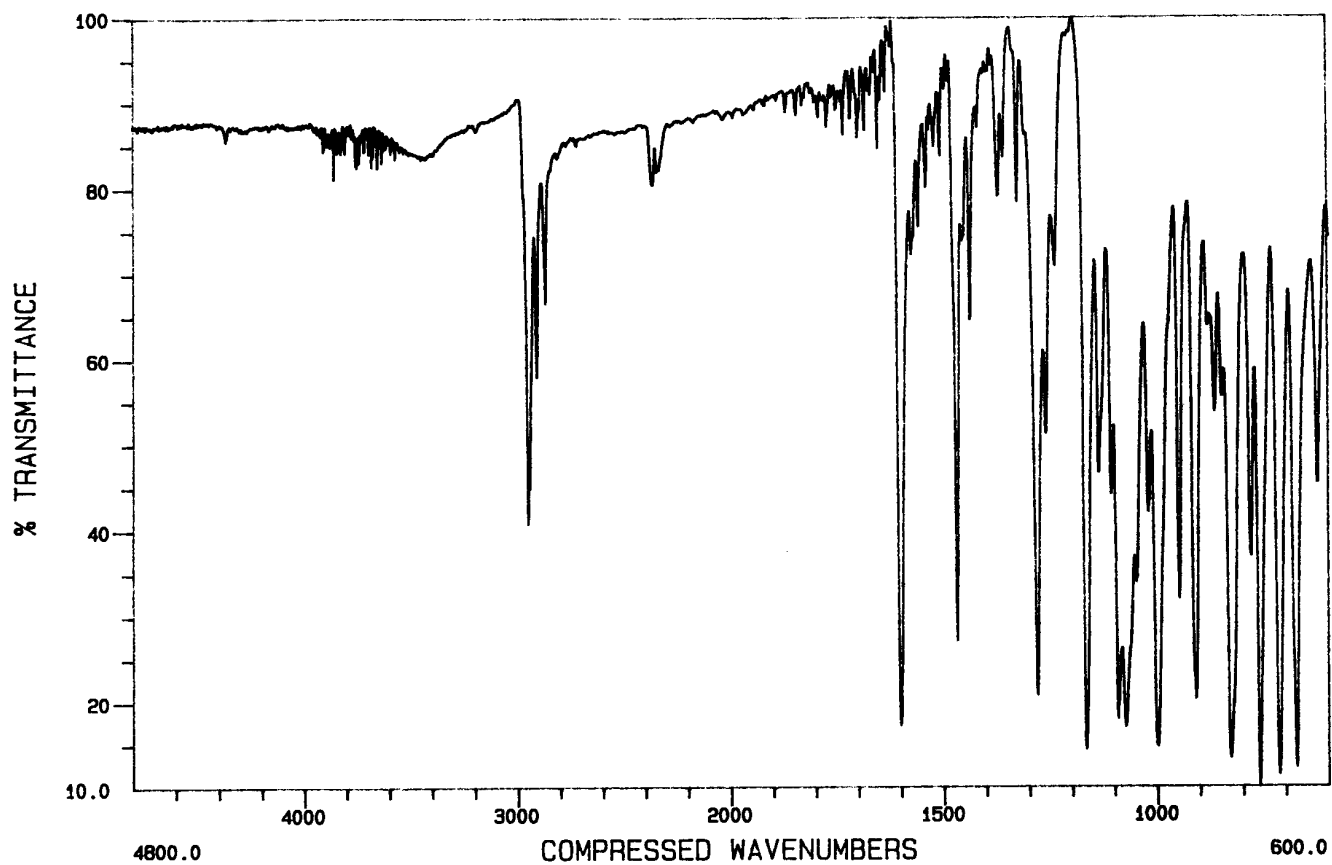
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Identification:



DECHLORANE PLUS IN POTASSIUM BROMIDE

SCANS: 32 RES: 4.0 TIME: 11/29/ 09: 40: 29

Specifications:

	<u>Dechlorane Plus - 515</u>	<u>Dechlorane Plus - 25</u>	<u>Dechlorane Plus - 35</u>
Mean particle size in microns (Volume %, Coulter LS 130)	15 Max	6 Max	3.5 Max
pH (Methanol-Water Extract)	6.0 - 8.0	6.0 - 8.0	6.0 - 8.0
Volatility, % (4 Hours at 100°C at 5 mm Hg)	0.12 Max	0.12 Max	0.12 Max
Color - Rd	92 Min	97 Min	97 Min

Chemical Name:

1,2,3,4,7,8,9,10,13,13,14,14 - dodecachloro-
1,4,4a,5,6,6a,7,10,10a,11,12,12a - dodecahydro-
1,4,7,10 - dimethanodibenzo (a,e) cyclooctene

Molecular Weight: 654

Formula: C₁₈H₁₂Cl₁₂

Typical Data:

Appearance	White, crystalline free-flowing solid
Chlorine	65.1%
Melting Point	350°C (with decomposition)
Density	1.8 g/cc
Vapor Pressure @ 200°C	0.006 mm of Hg
Particle Size	Dechlorane Plus 515 10 microns average Dechlorane Plus 25 4.5 microns average Dechlorane Plus 35 2 microns average
Bulk Density - Dechlorane Plus 515 and 25	38-42 pounds/cubic foot
Dechlorane Plus 35	25-30 pounds/cubic foot
Recommended Operating Temperature	285°C (545°F) Maximum

Solubility:

<u>Solvent</u>	<u>Grams of Dechlorane Plus per 100 grams of solvent at 25°C</u>
Benzene	2.0
Xylene	1.0
Styrene	1.8
Trichloroethylene	1.4
Methyl Ethyl Ketone	0.7
n-Butyl Acetate	0.7
Hexane	0.1
Methyl Alcohol	0.1

Containers/Regulatory Status:

	<u>Net Weight</u>	<u>Gross Weight</u>
Multi-ply Bag	50 pounds	50 1/2 pounds

Dechlorane Plus is not regulated by the Department of Transportation and, therefore, has not been assigned a DOT hazard classification.

Dechlorane Plus is listed in the Toxic Substance Control Act (TSCA) inventory under the CAS Number 13560-89-9.

Product Benefits of Dechlorane Plus:

- **Colorability** Unlike many other flame retardant additives, Dechlorane Plus is a fine white powder which easily allows color coding and matching.
- **Excellent Flame Ratings** Formulations may be tailored to meet the most demanding flammability specifications.
- **UV Stability** Dechlorane Plus has excellent UV stability.
- **Thermal Stability** Operating temperatures up to 285°C allow greater ease of processing in a wide variety of polymers.
- **Excellent Electrical Properties** The absence of ionic impurities provides electrical performance that is unsurpassed by other flame retardant additives.
- **Low Smoke** Unlike other halogenated flame retardants, Dechlorane Plus enhances the formation of an insulative char. This not only inhibits flaming drips and reduces flame propagation, but has the additional benefit of lower smoke generation.
- **Synergist Options** Due to the unique properties of Dechlorane Plus, cost effective synergist alternatives to antimony trioxide are available.
- **Inert Filler** Dechlorane Plus has low solubility, is non-reactive, non-plasticizing and hydrophobic.
- **High CTI Performance** Comparative tracking index values in excess of 400 volts may be achieved through the use of Occidental technology.
- **Cost Effectiveness** With a 1.8 specific gravity, Dechlorane Plus can have a cost advantage over comparable brominated flame retardants that range between 2.2 and 3.5.
- **Technical Expertise** Full service technical support is available not only to back our product and provide recommended starting formulations, but also to assist in your commercial development.

Polymer Systems Compatible with Dechlorane Plus:

ABS	Kraton	Polyethylene
Chloroprene	Natural Rubber	Polypropylene
DAP	Neoprene	Polyurethanes
EPDM	Nylon (6, 6/6, 12)	SBR Block Copolymer
Epoxy	PBT	Silicon Rubber
EPR	Phenolics	TPE
EVA	Polyester	TPU