

PRODUCTS

0557533

TOWOLDMON0005885

TRADEMARKS... The word Monsanto and the Monsanto block M are Monsanto's most important trademarks and are registered in the U. S. Patent Office. The following index contains other trademarks owned by Monsanto. Trademarks which are registered in the U. S. Patent Office are marked with an asterisk (*).

ALPHABETICAL PRODUCT INDEX

A

A-1 Thiocarbanilide (Rubber Chemical)....43
A-32* (Rubber Chemical)....42
A-100* (Rubber Chemical)....42
Accelerator B (Rubber Chemical)....42
Acetate, Vinyl†
Acetophenetidin U.S.P....19
Acetylene
Acids and Anhydrides (Carboxylic)....14 and 15
ACL*....17, 46 and 54
Acrylonitrile....23 and 44
Actamer*....46
Adhesives....44
Adipic Acid....14 and 34
Agricultural Chemicals....7-10
Aircraft Hydraulic Fluids....11 and 12
Alcohol, Methyl†
Alkalate 122 (Dodecyl Benzene)....54
Alkalate 130 (Alkyl Benzene)....54
Alkophos* (Aluminum Acid Phosphates)....27
Alkyl Acid Phosphates....27
Alkyl Phosphate Santicizer* 141)....40
Alkyl Aryl Sulfonates (Santomerse*)....21 and 53
Alkyl Benzene (Dodecylbenzene)....24
Alkyl Benzene (Tradecylbenzene)....24 and 54
Alkyl Phenol (Dodecylphenol)....21, 24 and 54
Alkyl Phenol (Nonylphenol)....21, 24 and 54
Alkylaniline C-12 (Dodecylaniline)....16
Aluminum Acid Phosphates (Alkophos*)....27
Aluminum Chloride Solution 32° Bé....13
Aluminum Sulfate Commercial Dry....50
Aluminum Sulfate Commercial Liquid....51
Aluminum Sulfate Iron Free....51
a-Methyl Styrene†
Amines....15-17
Ammonia, Anhydrous....8
Ammonia, Aqua....8
Ammonium Nitrate Fertilizer E-2* Pellets....8
Ammonium Nitrate Fertilizer Pellets....8
Ammonium Nitrate 83% Solution....8
Ammonium Phosphate, di....25
Ammonium Phosphate, ethyl....25
Ammonium Phosphate, mono....25
Ammonium Phosphate, triethyl....25
Anhydrous Monocalcium Phosphate (Py-Ran*)....25
Anionic Surface Active Agents....53
Anisidine (ortho)....15
Anisidine (para)....16
Anti-Caking Flow Conditioners....45
Anti-Foaming Agents....45
Antioxidants....46
Anti-Slip and Anti-Soil Agents....45 and 46
Aroclor* Compounds....35
Aroclor* Fluids....11
Aroclor* Polychlorinated Polyphenyls....17
Aromatic, Heavy (Solvent)†
Aromatic Tars, Petroleum Residuals†
Asphalt....19
Avudex*....9
Avadex* BW....9

B

Bantex* (Zinc MBT) Rubber Chemicals....41
Battery Acid (Electrolyte)....13
Benthul* Alkyd Resin Intermediate....49
Benzene†
Benzoic Acid....15
Benzyl Benzoate....23
Benzyl Chloride....18
Benzyl Chloride, Stabilized....18
Biphenyl (Diphenyl and Phenylbenzene)....23
Bisphenol A....20
Bisphenol A—Hydrogenated....24
Bleaching Compounds....54
Bone Ash....49
Brush-Blitz....10
Brush Killers....10
Brush-O-Cide....10
Butadiene†
Butene-2†
Butenes, Mixed†
Butyl Benzyl Phthalate (Santicizer* 160)....38
Butyl Decyl Phthalate (Santicizer* 603)....38
Butyl Phthalyl Butyl Glycollate (Santicizer* B-16)....40

C

Caffeine....20
Calcium Phosphates....25
Calcium Pyrophosphate....25
Calcium Silicate (Slag)....14
Carbolic Acid (Phenol)....21
Carbon Dioxide....13
Casein and Soybean Adhesives....44
Catalysts....48
Caustic Potash....14
Cellulose Acetate (Vuepak*)....34
Cellulosic Resins/Plastics....34
Chemical Specialty Catalysts....47
Chloramine-T, N.F....18 and 46
Chloroaniline, meta....16
Chloroaniline, ortho....16
Chloroaniline, para....16
Chlorophenol, ortho....20
Chlorophenol, para....20
Chlorosulfonic Acid....21
Coal Tar Resins....34
Colloidal Silicas (Syton*)....45 and 46
Compressor Lubricant (Pydraul* AC)....12
Coolanol* 35....11
Coolanol* 45....11 and 12
Coumarin....49
Cresyl Diphenyl Phosphate (Gasoline Grade)....27
Crop-Guard....9
Curing Agents....48
Cyclohexanol....24
Cyclohexylamine....16

D

2,4-D Amine....9
2,4-D Butyl Ester....9
2,4-D Butyl Ester Concentrate....9
2,4-D Ester Aerial Emulsifiable....9
2,4-D Granular....9
2,4-D Isopropyl Ester....9
2,4-D Low Volatile Ester....9
2,4-D/2,4,5-T Butyl Ester....10
2,4,-D 2,4,5-T Low Volatile Ester....10
DDBSA—Dodecylbenzene Sulfonic Acid....21 and 53
DDBSA-94....22 and 53
Defoamer PC-1244....45
Defoamer PC-1344....28, 45 and 50
Detergent Intermediates....54
Di Ammonium Phosphate....25
Dibutyl Fumarate....34
Dibutyl Maleate....34
Dibutyl Phthalate....36
Dibutylamine Pyrophosphate (D.P. Solution*)....50
Dicalcium Phosphate Anhydrous....25
Dicalcium Phosphate Dihydrate....25
Dicalcium Phosphate, Feed Grade....7 and 25

*Registered Trademark Monsanto Chemical Company

†This product was added too late to include detailed product copy. For information write:

MONSANTO CHEMICAL COMPANY
Marketing Services Dept.
[illegible]

TOWOLDMON0005886

3,4-Dichloroaniline (3,4-DCA) 16
Dichlorobenzene, ortho 18
2,4-Dichlorophenol 20
Dicyclohexyl Phthalate (DCHP) 36
Dicyclohexylamine 16
Dielectric Coolant for Electronic Equipment (Coolanol* 45) ..... 11 and 12
Diethyl Phthalate 36
Di-2-Ethylhexyl Adipate (DOA) 35
Di-2-Ethylhexyl Phthalate (DOP) 36
Dihydroxy Diphenyl Sulfone 20
Diisodecyl Adipate (DIDA) 36
Diisodecyl Phthalate (DIDP) 36
Diisooctyl Phthalate (DIOP) 37
Di-Isopropyl Benzene† 37
Dimethyl Phthalate 37
Di-N-Octyl, N-Decyl Adipate (DNODA) 36
Diphenyl (Diphenyl or Phenylbenzene) 23
Diphenyl Phthalate 37
Diphenylguanidine Phthalate (Guantal*) Rubber Chemical 42
Disodium Phosphate, Anhydrous 26
Disodium Phosphate, Dodecahydrate 26
Dodecylaniline 16
Dodecylbenzene (Alkyl Benzene) 24
Dodecylphenol—Alkyl Phenol ..... 21, 24 and 54
Domes (Geospace Utility Shelter) 7
DPG (Diphenylguanidine) 42
D.P. Solution* (Dibutylamine Pyrophosphate) 50
DX-840 Resins 35
Dytrol* (Paint Brush Preserver) 37

E

E-2* Pellets (Ammonium Nitrate Fertilizer) 8
El-Sixty* (Rubber Chemical) 41
Elastopar* (Rubber Chemical) 44
Electronic Materials 11
Ethavan (Ethyl Vanillin) ..... 17 and 48
Ethyl Ammonium Phosphate 25
Ethyl Benzene† 24
Ethyl PCT 22
Ethyl Phthalyl Ethyl Glycolate (Santicizer* E-15) 39
Everise* Sodium Acid Pyrophosphate 26
Extruding and Calendering Material (Lustrex*) 31

F

Farm Chemicals 7-11
Feed Supplements ..... 7 and 8
Ferrophosphorus (Iron Phosphide) 28
Fertilizers ..... 8 and 9
Field-Clean 9
Flatting Agents 48
Flavorings ..... 17 and 48
Flectol* H (Rubber Chemical) 43
Formaldehyde 24
Formaldehyde Resins 35
Fruit Spray (Stop Scald*) 10
Fuel Oil Additives (Santolene*) 29
Fumaric Acid 15
Functional Fluids ..... 11, 12 and 13
Fungicides 9

G

Gallium Arsenide (Electronic Grade) 11
Gear Oil Additives (Santopoid*) 30
Geospace Utility Shelter (Domes) 7
Glassy Sodium Phosphate (Olfos*) 27
Guantal* (Diphenylguanidine Phthalate) Rubber Chemical 42

H

H Acid 15
Halogen-Containing Compounds 17, 18 and 19
HB-20* Partially Hydrogenated Alkyl-Aryl Hydrocarbon ..... 37 and 41
HB-40* Partially Hydrogenated Terphenyl 37
Heavy Aromatics, Solvent† 24
Heavy Chemicals ..... 13 and 14
Herbicidal Oil No. 1 9
Herbicidal Oil Nos. 6 and 7 9
Herbicides ..... 9 and 10
H. T. Monocalcium Phosphate (Spray Dried) 25
Hydraulic Fluids ..... 11 and 12
Hydrochloric Acid (Muriatic Acid) 14
Hydrogenated Bisphenol A 24

I

Indium Arsenide—Electronic Grade 11
Indium Phosphide—Electronic Grade 11
Insecticides 10
Insoluble Sulfur 60 44
Iron Phosphide (Ferrophosphorus) 28
Isobutene† 24
Isooctyl Isodecyl Phthalate (Santicizer* 602) 38

L

Lampblack 50
Lustran* Molding and Extruding Compound 30
Lustrex* Extruding and Calendering Material 31
Lustrex* Styrene Molding Compound 30
Lyton* Surface Coating Resin 31
Lyton* Synthetic 31
Lytron* Textile Resin 31

M

Maleic Anhydride ..... 15, 35 and 50
MCP Amine 9
Melamine Formaldehyde (Scriptite* 330) 51
Melamine Resins 33
Melamine-Urea Resins 44
Mersize* (Paper Sizing Agent) 51
Mertax* (MBT) 2-mercaptobenzothiazole 42
Mertone* WB-4 (Precoat for Reproduction Papers) 50
Meta-Chloroaniline 16
Metal Processing Compounds 49
Methanol 24
Methapyrilene Fumarate (Thenylpyramine Fumarate) 20
Methapyrilene Hydrochloride (Thenylpyramine Hydrochloride) 20
Methionine Hydroxy Analogue (MHA)* 7
Methyl Alcohol† 24
Methyl Diphenyl Phosphate (Phosflex MDP) ..... 28 and 29
Methyl Parathion 10
Methyl PCT 22
Methyl Phthalyl Ethyl Glycollate (Santicizer* M-17) 39
Methyl Salicylate 49
Methyl Salicylate U.S.P. 17
Methyl Salicylate U.S.P. Synthetic ..... 17 and 48
Methyl Styrene-a† 24
Methyl Toluenesulfonate 22
Metsul Acid (Nitratine Acid) 14
Mod-Epox* 37
Mono Ammonium Phosphate 25
Mono Thiurad* (Rubber Chemical) 42
Monochlorophthalic Anhydride 15
Monomers for Synthetic Rubber 41
Monopotassium Phosphate 26
Monosodium Phosphate ..... 7 and 26
Monsanto Penta* (Pentachlorophenol Technical) ..... 10, 47 and 54
Monsanto Polyethylene* Coating Material C
Monsanto Polyethylene* Extruding & Calendering Material C

*Registered Trademark Monsanto Chemical Company

†This product was added too late to include detailed product copy. For information write:

MONSANTO CHEMICAL COMPANY
Marketing Services Dept.
800 No. Lindbergh Blvd., St. Louis 66, Mo.

0557535

TOWOLDMON0005887

Monsanto Polyethylene* Molding Compounds.....32
Mortar* Resins.....37
Mortar* Synthetic Resins.....34
Muriatic Acid (Hydrochloric Acid).....14

N

Naphthalene†
NFH* 80 and 85 (Non-Fuming Brightener).....49
Niran*—Parathion.....10
Nitric Acid.....14
Nitroaniline—ortho.....16
Nitrochlorobenzene—ortho.....18
Nitrochlorobenzene—para.....18
Nitrogen Fertilizer Solutions.....8
Nitrophenol—para.....21
Nonionic Surface Active Agents.....53 and 54
Nonylphenol—Alkyl Phenol.....21, 24 and 54
Nutrium*.....8

O

Odorants.....49
Oil Additives (Santolube*).....29 and 30
Oilfos* Glassy Sodium Phosphate.....27
Oleum.....13
Opalon* Vinyl Chloride Extruding & Calendering Material.....31
Opalon* Vinyl Chloride Molding Compounds.....31
Ortho-Anisidine.....15
Ortho-Chloroaniline.....16
Ortho-Chlorophenol.....20
Ortho-Dichlorobenzene.....18
Ortho-Nitroaniline.....16
Ortho-Nitrochlorobenzene.....18
Ortho-Phenetidine.....17
Ortho-Tolyl Biguanide (Sopanox*).....46
Orthophosphoric Acid (Phosphoric Acid).....7 and 14
OS-45* Type III (High Temp. Aircraft Hydraulic Fluid).....11 and 12
OS-45* Type IV (High Temp. Aircraft Hydraulic Fluid).....11 and 12

P

Paint/Coating Ingredients.....49 and 50
Paper Chemicals.....50 and 51
Paper Sizing Agent (Mersize*).....51
para-Anisidine.....16
para-Chloroaniline.....16
para-Chlorophenol.....20
para-Dichlorobenzene (Santochlor*).....10 and 19
para-Nitroaniline.....16
para-Nitrochlorobenzene.....18
para-Nitrophenol.....21
para-Phenetidine.....17
para-Toluenesulfonamide.....22
para-Toluenesulfonyl Chloride.....22
Parathion—Niran*.....10
PC-1244.....45
PC-1341.....28, 45 and 50
Pentachloronitrobenzene (PCNB).....9
Pentachlorophenol, Technical (Monsanto Penta*).....19, 47 and 52
Penulones, Mixed†.....
Petrofos* Sodium Tripolyphosphate.....27
Petroleum Residuals, Aromatic Tars†.....
Petroleum Additives.....28, 29 and 30
Pharmaceuticals.....19 and 20
Phenacetin (Acetophenetidin U. S. P.).....19
Phenetidine—ortho.....17
Phenetidine—para.....17
Phenol (Carbolic Acid).....21
Phenolic and Resorcinol Resins.....44
Phenolic Resins (Resinox*).....33
Phenolic Varnishes (Resinox*).....33
Phenolphthalein.....20
Phenolsulfonic Acid.....21
Phenylbenzene (Diphenyl).....23
Phosphate Feed Solution.....7
Phosphatic Fertilizer Solution.....8
Phospholeum*.....9 and 26
Phosphoric Acid (75, 80 and 85%).....26
Phosphoric Acid (Orthophosphoric Acid).....7 and 14
Phosphoric Anhydride (Phosphorus Pentoxide).....14 and 28
Phosphorus, Elemental.....28
Phosphorus Oxychloride.....28
Phosphorus Pentasulfide.....28
Phosphorus Pentoxide (Phosphoric Anhydride).....14 and 28
Phosphorus Trichloride.....28
Phostane MDP (Methyl Diphenyl Phosphate).....28 and 29
Phthalic Anhydride.....15, 35 and 50
Phthalyl Chloride.....19
Plasticizers.....35-38
Plastics/Resins/Plasticizers.....30-41
Polyethylenes.....32
Potassium Phosphates.....26
Preservatives — Feed, Grain and Fruit.....10
Propylene†.....
Pydraul* AC Compressor Lubricant.....12
Pydraul* Hydraulic Fluids.....12 and 14
Py-Ran* Anhydrous Monocalcium Phosphate.....25

R

R-2 Crystals (Rubber Chemical).....42
Randox*.....9
Randox* T.....9
Resimene*.....33
Resimene* Melamine.....33
Resin Oils, Petroleum†.....
Resinox.....33
Resinox* Liquid Phenolic Resins.....33
Resinox* Phenolic (Lump and Resins Compound).....33
Resinox* Phenolic Varnishes.....33
Resloom* E-50.....33 and 52
Resloom* Essentially Monomeric Melamine.....33
Resorcinol and Phenolic Resins.....44
Rogue*.....9
Rubber Chemicals.....41-44
RZ-50A* (Rubber Chemical).....42
RZ-50B* (Rubber Chemical).....42

S

Saccharin.....17
Saccharin, U. S. P.....48 and 51
Saccharin, Sodium.....7
Saccharin, Sodium U. S. P.....48 and 52
Saflex* Vinyl Butyral.....32
Salicylic Acid.....15
Salt Cake (Sodium Sulfate, Anhydrous, Technical).....13
Santicizer 1-H Plasticizer.....22 and 39
Santicizer 3 Plasticizer.....22 and 39
Santicizer 8 Plasticizer.....23 and 39
Santicizer 9 Plasticizer.....39
Santicizer E-15 Plasticizer.....39
Santicizer E-16 Plasticizer.....40
Santicizer M-17 Plasticizer.....39
Santicizer 140 Plasticizer.....40
Santicizer 141 Plasticizer.....40
Santicizer 160 Plasticizer.....38
Santicizer 165 Plasticizer.....40
Santicizer 213 Plasticizer.....38
Santicizer 214 Plasticizer.....40
Santicizer 409 Plasticizer.....40
Santicizer 602 Plasticizer.....38
Santicizer 603 Plasticizer.....38
Santicizer 610 Plasticizer.....41
Santicizer 631 Plasticizer.....41
Santicizer 636 Plasticizer.....41
Santobrite* (Sodium Pentachlorophenate, Technical).....47
Santocel* (Silica Aerogel for Industrial Applications).....45
Santocel* (Silica Aerogel for Thermal Insulation).....45
Santochlor* (para-Dichlorobenzene).....10 and 19

**Registered Trademark Monsanto Chemical Company*

†This product was added too late to include detailed product copy. For information write.

MONSANTO CHEMICAL COMPANY
Marketing Services Dept.
800 No. Lindbergh Blvd., St. Louis 66, Mo.

0557536

TOWOLDMON0005888

Santocure* (Rubber Chemical) 41
Santocure* 25 (Rubber Chemical) 41
Santocure* NS (Rubber Chemical) 41
Santoflex* AW (Rubber Chemical) 43
Santoflex* DD (Rubber Chemical) 43
Santoflex* 75 (Rubber Chemical) 43
Santofome* 31
Santolene* C (Fuel Oil Additive) 29
Santolene* FC (Fuel Oil Additive) 29
Santolene* H-LV (Fuel Oil Additive) 29
Santolene* J (Fuel Oil Additive) 29
Santolite* MHP 23
Santolite* MHP Industrial Resin 34
Santolite* MS (80°C Industrial Resin) ..... 23 and 34
Santolube* 70 (Oil Additive) 29
Santolube* 203-C (Oil Additive) 29
Santolube* 333 (Oil Additive) 29
Santolube* 392 (Oil Additive) 29
Santolube* 394 (Oil Additive) Zinc Dialkyl Dithiophosphate 29
Santolube* 391-C (Oil Additive) 29
Santolube* 395-X (Oil Additive) 29
Santolube* 401 (Oil Additive) 30
Santolube* 418 (Oil Additive) 30
Santomask* II Odor-Masking Agent ..... 49 and 50
Santomerse* Alkyl Aryl Sulfonates ..... 21 and 53
Santonox* ..... 23 and 37
Santonox* R 38
Santophen* 1 Germicide ..... 19 and 47
Santophen* 1 Solution ..... 19 and 47
Santopoid* 22-R1—Gear Oil Additive 30
Santopoid* 23-R1—Gear Oil Additive 30
Santopoid* 33—Gear Oil Additive 30
Santopoid* 35—Gear Oil Additive 30
Santopoid* S—Gear Oil Additive 30
Santopour* C—Oil Additive 30
Santoquin* and Santoquin* Mixture No. 6 ..... 7 and 46
Santosite*—Sodium Sulfite Anhydrous Technical 13
Santotan* KR Basic Chrome Sulfate 52
Santovar* A (Rubber Chemical) 43
Santowhite* Crystals (Rubber Chemical) 43
Santowhite* L (Rubber Chemical) 43
Santowhite* MK (Rubber Chemical) 43
Santowhite* Powder (Rubber Chemical) 43
Scripset* 51
Scriptite* 330—Melamine Formaldehyde 51
Scriptite* 400—Urea-Formaldehyde 51
Silica Aerogel for Industrial Applications (Santocel*) 45
Silica Aerogel for Thermal Insulation (Santocel*) 45
Silicon—Electronic Grade 11
Skydrol* 500-A (Fire Resistant Jet Aircraft Hydraulic Fluid) 12
Skydrol* 7000 (Fire Resistant Aircraft Hydraulic Fluid) 12
Slag, Calcium Silicate 14
Sodium Acid Pyrophosphate (Everise*) 26
Sodium Benzoate 24
Sodium Disulfate (Nitre Cake) 13
Sodium Bisulfite Anhydrous 51
Sodium Hexametaphosphate 27
Sodium meta-Nitrobenzene Sulfonate 23
Sodium Pentachlorophenate, Technical (Santobrite*) 47
Sodium Salicylate, U.S.P. 20
Sodium Sulfite Anhydrous Technical 13
Sodium Sulfite Anhydrous 51
Sodium Tripolyphosphate 27
Sopanox*—ortho-Tolyl Biguanide 46
Soybean and Casein Adhesives 44
SQ Phosphate 27
Stabilized Methyl Parathion 10
Sterox* AJ—AJ-100 53
Sterox* AP—AP-100 53
Sterox* CD 53
Sterox* DF 53
Sterox* DJ 53
Sterox* NJ 53
Sterox* SL 54
Sterox* SK 54
Sterox* No. 6 54
Stop-Scald* Fruit Spray 10
Styrene Molding Compound (Lustrex*) 30
Styrene Monomer ..... 24 and 41
Styrex*, Vinyl Styrene ..... 31, 32 and 52
Sulfasan* R (Rubber Chemical) 43
5-Sulfosalicylic Acid, Technical 15
Sulfur Dioxide, Liquid 14
Sulfuric Acid and Oleum 13
Surface Coating Resins (Lytron*) 31
Syton* AS-200 (Colloidal Silica) 45
Syton* C-30 and 200 (Colloidal Silica) 46
Syton* DS and DS-200 (Colloidal Silica) 46
Syton* P and P-200 (Colloidal Silica) 46
Syton* W-200 (Colloidal Silica) 46

T

2,4,5-T Ester 10
2,4,5-T Low Volatile Ester 10
Tanning Agents 52
TCC (3,4,4' Tricarbotecarbanilide) ..... 19 and 47
Tertiary-Butylamine 16
Tetrapotassium Pyrophosphate 26
Tetrasodium Pyrophosphate 27
Textile Chemicals 52
Textile Resin (Lytron*) 31
Thenylpyramine Fumarate (Methapyrilene Fumarate) 20
Thenylpyramine Hydrochloride (Methapyrilene Hydrochloride) 20
Thiofide* (MBTS) Rubber Chemical 42
Thiotax* (MBT) Rubber Chemical 42
Thiurad* (Rubber Chemical) 42
Toluene† .....
Toluenesulfonamide—para 22
Toluenesulfonic Acid 22
Toluenesulfonyl Chloride—para 22
TPSA—Tetrapropenylsuccinic Anhydride 15
Tricalcium Phosphate ..... 8, 25 and 45
Tricresyl Phosphate 38
Tridecylbenzene (Alkyl Benzene) ..... 24 and 54
Triethylammonium Phosphate 25
Triphenyl Phosphate 38
Triphenyl Phosphite 28
Tripotassium Phosphate 26
Trisodium Phosphate, Anhydrous 27
Trisodium Phosphate, Crystalline 27
Tri-Una-Sol 8

U

Ultron* Vinyl Chloride (Flexible Film & Sheeting) 32
Ultron* Vinyl Chloride (Rigid Sheets) 32
Urea, Feed Grade Coated Microprills 8
Urea, Fertilizer Grade Coated Pellets 9
Urea, Fertilizer Grade Uncoated Pellets 9
Urea-Formaldehyde (Scriptite* 400) 51
Urea, Industrial Grade Uncoated Pellets 35
Urea and Melamine Resins 41

V

Vanadium Sulfuric Acid Catalyst 47
Vanillin ..... 17, 48 and 49
Vegadex* 9
Vinyl Acetate† .....
Vinyl Butyral (Saflex*) 32
Vinyl Chloride Extruding & Calendering Material (Opalon*) 31
Vinyl Chloride (Flexible Film & Sheeting) Ultron* 32
Vinyl Chloride Molding Compound (Opalon*) 31
Vinyl Chloride Monomer 19
Vinyl Chloride (Rigid Sheets) Ultron* 32
Vinyl Styrene (Styrex*) ..... 31, 32 and 52
Vuepak* Cellulose Acetate 34

W

Wood Preservative (Monsanto Penta*) 52
Weed Killers 9

X

Xylene† .....

Z

Zinc Oxide, Technical 52

*Registered Trademark Monsanto Chemical Company

†This product was added too late to include detailed product copy. For information write:

MONSANTO CHEMICAL COMPANY
Marketing Services Dept.
Second Floor, Lindbergh Blvd., St. Louis 66, Mo.

0557537

TOWOLDMON0005889

ELECTRONIC MATERIALS

COOLANOL* 35

ORGANIC DIVISION

Coolanol 35 is a coolant-dielectric fluid for cooling electronic equipment in ground, shipboard and airborne applications. Chemically and operationally similar to *Coolanol* 45, *Coolanol* 35 is especially suited for low-temperature applications, with an operating range of −80° to 400°F.

COOLANOL* 45 DIELECTRIC COOLANT FOR ELECTRONIC EQUIPMENT

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

PROPERTIES: A clear, amber liquid with dielectric, heat transfer and hydraulic properties—over a −65°F. to 400°F. temperature range.

USES: Dielectric coolant for both airborne and ground environmental electronic equipment. Also utilized in hydraulic applications in electronic equipment.

SHIPPING INFORMATION: Chemicals NOIBN. 1-qt. cans; 1-gal. cans; 5-gal. cans; 54-gal. drums.

GALLIUM ARSENIDE *Electronic Grade*

INORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Polycrystal ingots with semi-circular cross section approximately 3.0 centimeters wide and weighing several hundred grams.

PURITY: Available in various ranges of carrier concentrations, resistivities, mobilities and Hall coefficients. Also available doped to various levels and as gradient freeze, Czochralski, and float-zone single crystal.

USES: Ultra-high purity gallium arsenide for use in the manufacture of electronic semi-conductor devices such as rectifiers, transistors, standard diodes and tunnel diodes.

SHIPPING INFORMATION: Special containers according to form and quantity. Individual ingots packaged in polyethylene sleeves with data sheet.

INDIUM ARSENIDE—ELECTRONIC GRADE

INORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Polycrystal ingots with rectangular cross section approximately 1.5 x 2.0 centimeters and weighing several hundred grams.

PURITY: Available in various ranges of carrier concentrations, resistivities, mobilities and Hall coefficients.

USES: Ultra-high purity indium arsenide for use in the manufacture of electronic semi-conductor devices such as Hall generators, standard diodes and tunnel diodes.

SHIPPING INFORMATION: Special containers according to form and quantity. Individual ingots packaged in polyethylene sleeves with data sheet.

INDIUM PHOSPHIDE *Electronic Grade*

INORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Polycrystal ingots with semi-circular cross section approximately 2.0 centimeters wide and weighing approximately 50 grams.

PURITY: Available in various ranges of carrier concentrations, resistivities, mobilities and Hall coefficients.

USES: Ultra-high purity indium phosphide for use in the manufacture of electronic semi-conductor devices such as rectifiers, transistors, standard diodes and tunnel diodes.

SHIPPING INFORMATION: Special containers according to form and quantity. Individual ingots packaged in polyethylene sleeves with data sheet.

OS-45* TYPE III HIGH TEMPERATURE AIRCRAFT HYDRAULIC FLUID.

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid

PROPERTIES: A clear, amber liquid with outstanding hydraulic properties over a −65 F. to 400 F. temperature range.

Meets [illegible] requirements for both airborne and ground environmental application.

SHIPPING INFORMATION: Chemicals NOIBN. 1-qt. cans; 1-gal. cans; 5-gal. cans; 59-gal. drums.

OS-45* TYPE IV HIGH TEMPERATURE AIRCRAFT HYDRAULIC FLUID.

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid

PROPERTIES: A clear, amber liquid with outstanding hydraulic properties over a −65°F. to 550°F. temperature range.

USES: High temperature hydraulic for both airborne and ground environmental applications.

SHIPPING INFORMATION: Chemicals NOIBN. 1-qt. cans; 1-gal. cans; 5-gal. cans; 54-gal. drums.

SILICON—ELECTRONIC GRADE

INORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Single-crystal cylindrical rods. Polycrystal rods or chunks, slices or lapped wafers.

PURITY: Less than 0.2 parts per billion base boron content.

GENERAL INFORMATION: Ultra-high purity silicon for use in the manufacture of electronic semi-conductor devices such as diodes, rectifiers and transistors. Available in various electrical resistivity ranges, conductivity types, diameters and lengths according to individual customer requirements.

USES: Single-crystal rods used directly in the manufacture of semi-conductor devices, polycrystal rods used for zone-refining to produce single-crystal form and powders and chunks used for single-crystal growing techniques.

SHIPPING INFORMATION: Silicon Metal, Electronic Grade. Special containers according to form and quantity. Individual rods packaged in polyethylene sleeves with data sheet.

FUNCTIONAL FLUIDS: AIRBORNE, INDUSTRIAL, SPECIALTY

AROCLOR* FLUIDS

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquids, resins or solids.

PROPERTIES: Chlorinated aromatic hydrocarbons varying from water-white mobile liquids and pale yellow viscous oils to light amber resins and opaque crystalline solids. Refractive indices above 1.6125. In general are stable on long heating at 150°C.; not affected by boiling with sodium hydroxide solution. The light oils can be distilled at atmospheric pressure without appreciable decomposition and the viscous oils and resins distill readily under vacuum. Viscous oils and resins almost odorless and tasteless at ordinary temperatures.

GENERAL INFORMATION: Most *Arochlor* materials flux readily with resinous and pitch-like materials to give products having a decreased fire hazard. Viscous oils and resins do not support combustion when heated alone even at their boiling points—temperatures above 300°C. All have excellent electrical characteristics, high dielectric strength and resistivity, low power factor; certain of the liquids have a high dielectric constant as compared with mineral oils. The oils and resins easily soluble in the chlorinated organic solvents and drying oils; hard crystalline materials are, in general, less soluble; all are insoluble in water. The more viscous oils and resins have excellent adhesive properties. All forms are thermoplastic, apparently undergo no further condensation or hardening upon repeated melting and cooling. Nondrying; when exposed to air no noticeable oxidation or hardening takes place. The clear resins have rather low saponification losses; at 65.8°C. (150°F.) less than 0.01 cm. per sq. in. of surface per month.

USES: Liquid *Arochlors* are used as dielectrics for condensers or capacitors and transformers. Solid *Arochlors* are used to impregnate carbon resistors, and when combined with other plastic materials, the *Arochlors* are excellent sealers or impregnating agents for a variety of electrical apparatus, wire coatings [illegible] in cellulose acetate butyrate to extend [illegible] in oils and oils and as plasticizer and resin extender for rubber-base paints, including chlorinated rubber styrene, butadiene and

ed on next page

0557538

TOWOLDMON0005890

vinyls. In these protective coatings for metal, masonry and wood, *Arcolors* impart adhesion, resistance against moisture, acids, alkalies or other corrosive influence and they improve electrical insulating properties, durability and reduce flammability. They function as waxes in waterproofing compounds, weed preventive formulations, rubber compounds and putty. Employed in asphaltic floor tiles and cutback products. Improvement of bituminous and asphaltic materials, the *Arcolors* plasticize the asphalt, reduce flammability and improve durability. For printing inks; in precision-casting waxes, floor waxes and other wax products. Used widely in synthetic adhesives including ethyl cellulose, styrene, vinyls and rubber-base materials. *Arcolors* improve adhesion and resistance against corrosive influences. Selected liquid *Arcolors* are used as nonflammable hydraulic fluids for die-casting machines. They are used as actuating media for thermostats. *Arcolors* are useful in cutting oils as extreme pressure lubricants, as high-temperature lubricants and as grinding fluids. *Arcolor* 1248 is employed as a nonflammable, liquid-phase, heat-transfer medium for continuous operation in closed systems at temperatures up to 300°C. and at normal atmospheric pressure.

SHIPPING INFORMATION: Resin Synthetic NOIBN without filler, 600-lb. steel drums; 500-lb. net fiber drums; 100-lb. net bags.

COOLANOL 45* DIELECTRIC COOLANT FOR ELECTRONIC EQUIPMENT

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

PROPERTIES: A clear, amber liquid with dielectric, heat transfer and hydraulic properties—over a −65°F. to 400°F. temperature range.

USES: Dielectric coolant for both airborne and ground environmental electronic equipment. Also utilized in hydraulic applications in electronic equipment.

SHIPPING INFORMATION: Chemicals NOIBN. 1-qt. cans; 1-gal. cans; 5-gal. cans; 54-gal. drums.

OS-45* TYPE III HIGH TEMPERATURE AIRCRAFT HYDRAULIC FLUID.

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid

PROPERTIES: A clear, amber liquid with outstanding hydraulic properties over a −65°F. to 400°F. temperature range.

USES: High temperature hydraulics for both airborne and ground environmental applications.

SHIPPING INFORMATION: Chemicals NOIBN. 1-qt. cans; 1-gal. cans; 5-gal. cans; 54-gal. drums.

OS-45* TYPE 'V HIGH TEMPERATURE AIRCRAFT HYDRAULIC FLUID.

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid

PROPERTIES: A clear, amber liquid with outstanding hydraulic properties over a −65°F. to 550°F. temperature range.

USES: High temperature hydraulic for both airborne and ground environmental applications.

SHIPPING INFORMATION: Chemicals NOIBN. 1-qt. cans; 1-gal. cans; 5-gal. cans; 54-gal. drums.

SKYDROL* 500-A FIRE RESISTANT JET AIRCRAFT HYDRAULIC FLUID

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: Moisture .20% max.; neutralization number 0.10 max.; Sp. Gr. 25° 25°C. 1.060-1.066; viscosity at 100°F. 11.7 ±0.4 cs.

PROPERTIES: A clear, purple, fire-resistant hydraulic fluid with excellent lubricity. Operational at −65°F.

USES: Hydraulic fluid for hydraulic systems in turbo jet and turbo prop aircraft, which must be operational at −65°F.

SHIPPING INFORMATION: Hydraulic system fluids other than petroleum. 1-qt. cans; 1-gal. cans; 5-gal. cans; 54-gal. drums.

SKYDROL* 7000 FIRE RESISTANT AIRCRAFT HYDRAULIC FLUID

ORGANIC DIVISION—LITERATURE AVAILABLE

TYPICAL ANALYSIS: Cloud point below 0°F.; moisture 0.25% max.; neutralization number 0.2 max.; Sp. Gr. 1.080 to 1.086 at 25° 25° C.; pour point −70°F. or lower.

PROPERTIES: A [illegible] hydraulic fluid [illegible] excellent viscosity-temperature characteristics, excellent resistance to oxidation.

USES: Hydraulic fluid in aircraft cabin superchargers, expansion turbines for air-conditioning systems and the aircraft hydraulic system itself.

SHIPPING INFORMATION: Hydraulic system fluids other than petroleum. 1-qt. cans; 1-gal. cans; 5-gal. cans; 54-gal. drums.

INDUSTRIAL

PYDRAUL* AC COMPRESSOR LUBRICANT

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: Viscosity at 100°F.—405 SSU, 210°F.—47 SSU; moisture—0.15% max.; neutralization number (acid)—0.15 max.; sp. gr. at 25° 25°C.—1.340-1.360.

PROPERTIES: A light amber, mobile straight synthetic fire-resistant air compressor lubricant with excellent lubricity; non-corrosive, extremely stable to heat and air; designed as a shear stable fluid with a two-fold purpose—to eliminate carbon deposits on valves and cylinder walls, thereby reducing maintenance costs; and to provide safety from air compressor fires and explosions.

USES: A fire and explosion resistant lubricant for air compressors, such as those used in air separation plant, plant air systems, ammonia synthesis plants, [illegible] booster pumps and other applications.

SHIPPING INFORMATION: Chemicals NOIBN. 54-gal. steel drums; 5-gal. cans.

PYDRAUL* F-9 HYDRAULIC FLUID

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: Viscosity at 100°F.—215 SSU, 210°F.—45 SSU; moisture—0.20% max.; neutralization number (acid)—0.15 max.; sp. gr. at 25° 25°C.—1.270-1.300.

PROPERTIES: A light, amber, cloudy liquid; straight synthetic fire resistant fluid with excellent lubricity and pumping characteristics; non-corrosive, extremely stable to both heat and air; recoverable by filtration; designed for long service life.

USES: Fire resistant hydraulic fluid in die-casting machines, hydraulic presses, automatic welding machines and similar applications requiring a medium viscosity fluid.

SHIPPING INFORMATION: Hydraulic system fluids other than petroleum. 55-gal. steel drums and 5-gal. cans.

PYDRAUL* 60 HYDRAULIC FLUID

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: Viscosity at 100°F.—60 SSU, 210°F.—34 SSU; moisture—0.10% max.; neutralization number (acid)—0.12 max.; sp. gr. at 25° 25°C.—1.088-1.091.

PROPERTIES: A clear blue, oily, straight synthetic fire resistant hydraulic fluid with excellent lubricating and pumping characteristics; highly resistant to mechanical shear and breakdown; inert to common metals of construction; an excellent fluid for low temperature operations.

USES: A fire resistant hydraulic fluid in systems requiring extremely low viscosity. Low viscosity is excellent for high speed, precision equipment such as machine tools. Low temperature properties suited for many outdoor operations.

SHIPPING INFORMATION: Hydraulic system fluids other than petroleum. 54-gal. steel drums and 5-gal. cans.

PYDRAUL* 150 HYDRAULIC FLUID

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: Viscosity at 100°F.—150 SSU, 210°F.—50 SSU; moisture—0.15% max.; neutralization number (acid)—0.17 max.; S. gr. at 25° 25°C.—1.110-1.143.

PROPERTIES: A light, amber, straight synthetic fire resistant hydraulic fluid of low viscosity with excellent lubricity and low temperature pumping characteristics; non-corrosive, stable to heat and air.

USES: Fire resistant hydraulic fluid in equipment which operates out of doors at low temperatures (-65° or all of the time, such as Askania Regulator Equipment, fork-lift trucks and similar equipment with cold weather fluid requirements.

SHIPPING INFORMATION: Hydraulic system fluids other than petroleum. 55-gal. steel drums; 5 gal. cans.

PYDRAUL* 625 HYDRAULIC FLUID

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: Viscosity at 100°F.—625 SSU, 210°F.—45 SSU; moisture—0.15% max.; neutralization number (acid)—0.15 max.; sp. gr. at 25° 25°C.—1.340-1.370.

PROPERTIES: A light, amber, straight synthetic [illegible] pumping characteristics; non-corrosive, extremely stable to heat and air; a shear, stable fluid designed for long service life.

TOWOLDMON0005891

USES: Manufacture of anti-oxidants, anti-ozonants, gasoline gum inhibitors; medical compounds for poultry, dyestuffs, color and pigments.

CONTAINERS: Code 20 ICC 21B Lever pak with flowed in rubber gasket. Gross weight 225-lbs. approx.

SHIPPING CLASSIFICATION: para-Nitroaniline -Dye Intermediate NOIBN).

ortho-PHENETIDINE

Also known as ortho-amino-phenylethyl ether, ortho-aminophenetole and 2-amino-ethoxybenzene.

ORGANIC DIVISION

MOLECULAR WEIGHT: 137.18

STANDARD FORM: Liquid.

SPECIFICATIONS: Dark red liquid; crystallizing point −4.0°C. min. Distillation range: first drop 231.0 C. min.; 95% (1-96 ml) 2.0°C. max.; dry point 234.0°C. max.; solubility in HCl complete.

USES: An intermediate in the production of dyestuffs. CAUTION: This product is toxic. Avoid breathing its vapors and contact with skin.

SHIPPING INFORMATION: Dye Intermediate NOIBN. "Poison" label required. 475-lb. steel drums.

para-PHENETIDINE

Also known as para-aminophenyl-ethyl-ethyl ether, para aminophenetole and 4-amino-ethoxybenzene.

ORGANIC DIVISION

MOLECULAR WEIGHT: 137.18

STANDARD FORM: Liquid.

SPECIFICATIONS: Light yellow liquid; crystallizing point 4.0°C. min.; distillation range: first drop 248.0 C. min.; 95% (1-96 ml) 2.0 C. max.; dry point 251.0 C. max.; solution in HCl opalescent max.

USES: An intermediate in the production of dyestuffs and pharmaceuticals. CAUTION: This product is toxic. Avoid breathing its vapors and avoid contact with the skin.

SHIPPING INFORMATION: Dye Intermediate NOIBN. "Poison" label required. 450-lb. steel drums.

FLAVORINGS

ETHAVAN *Ethylvanillin.*

ORGANIC DIVISION—LITERATURE AVAILABLE

MOLECULAR WEIGHT: 166.17

STANDARD FORM: Fine crystalline needles.

SPECIFICATIONS: Fine white crystalline needles; completely soluble in ethyl alcohol 95% (1:2); ash 0.03% max.; M.P. 76.5°C. min.

USES: A flavoring and aromatic. Has a flavor similar to that of vanillin but not identical with it. The relative flavoring strength of Ethavan approximates three times that of *vanillin*.

SHIPPING INFORMATION: Chemicals NOIBN, 100-lb. fiber drums; 25-lb. fiber drums.

METHYL SALICYLATE U.S.P.

ORGANIC DIVISION—LITERATURE AVAILABLE

MOLECULAR WEIGHT: 152.14

STANDARD FORM: Water-white liquid.

SPECIFICATIONS: Clear, colorless liquid; assay 98.0% min.; Sp. Gr. 1.180-1.185 at 25°/25°C.; conforms to U.S.P. test for heavy metals and acidity; refractive index at 20°C. 1.5350-1.5380.

USES: Pharmaceutical product; disinfectant; flavoring agent in foodstuffs and beverages; odorant in printing inks and insecticides.

SHIPPING INFORMATION: Methyl Salicylate (Essential Oil NOIBN). 500-lb. and 50-lb. drums.

METHYL SALICYLATE U.S.P. *Synthetic.*

ORGANIC DIVISION—LITERATURE AVAILABLE

SPECIFICATIONS: Colorless liquid; assay essentially 100%; color APHA 10 max.; odor, characteristic; refractive index at 20°C. 1.536; specific gravity at 25°/25 C. 1.180 to 1.185; solubility in 70% alcohol (1:7), complete; solubility in Normal Potassium Hydroxide 1:40, Turbidity; none; color, faint yellow, max.; heavy metals, meets U.S.P.; weight per gallon, 9.9 pounds; meets all requirements of USP.

USES: Methyl Salicylate U.S.P. Synthetic is widely used in sprays, as well as various kinds of insecticides, disinfectants, mouth washes, perfumes, pharmaceuticals, in masking gummed tape and paper, as an odor principle in toiletries, printing and coloring inks, and in covering disagreeable odors of [illegible] for food flavoring.

SHIPPING INFORMATION: 500-lb. drums returnable; 500 and 50-lb. drums non-returnable. Methyl Salicylate (Essential Oil NOIBN).

METHYL SALICYLATE U.S.P. *Synthetic.*

ORGANIC DIVISION—LITERATURE AVAILABLE

SPECIFICATIONS: Colorless liquid; assay [illegible] APHA 10 max.; odor, characteristic; refractive index at 1.5350-1.5380; Sp. Gr. 1.180-1.185 at 25°/25°C.; 20 ppm max.; meets all requirements of U.S.P.

USES: Widely used in sprays; insecticides, [illegible] perfumes; pharmaceuticals; in masking [illegible] paper; as an odor principle in toiletries, [illegible] inks, pastes and glues; and as a flavoring agent [illegible] lozenges, chewing gum and root beer.

SHIPPING INFORMATION: Methyl Salicylate [illegible] NOIBN) 500-lb. drums—returnable; 500 and 1 [illegible] non-returnable.

SACCHARIN

Also known as saccharin insoluble, and orthosulfobenzimide.

ORGANIC DIVISION—LITERATURE AVAILABLE

MOLECULAR WEIGHT: 183.18

STANDARD FORM: Powder and coarse powder.

SPECIFICATIONS: White crystalline powder; [illegible] M.P. 227.0°C. min.; moisture 0.50% max.; [illegible] Na_2CO_3 (1:5) complete; ash 0.2% max.; heavy metals max.

USES: Sweetener for tooth pastes, mouth washes, [illegible] ceutical preparations. Approximately 500 times [illegible] ing power of sugar.

SHIPPING INFORMATION: Chemicals NOIBN. 100-lb. [illegible]

VANILLIN

Vanillin U. S. P.; also known as methylprotocatechuic aldehyde and 3-hydroxybenzaldehyde.

ORGANIC DIVISION—LITERATURE AVAILABLE

MOLECULAR WEIGHT: 152.14

STANDARD FORM: Fine crystals.

SPECIFICATIONS: Fine, white crystalline needles; M.P. [illegible] min.; no foreign flavor in sugar solution; [illegible] max.; solubility in alcohol (1:2) complete.

USES: As a flavoring agent in foodstuffs and [illegible] an odorant in rubber.

SHIPPING INFORMATION: Chemicals NOIBN. 100-lb. [illegible] 25-lb. fiber drums.

[illegible]

ACL*

INORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Powder and granular. A [illegible] ganic chlorine liberating compounds. Used [illegible] dients in household and commercial [illegible] scouring cleansers, machine diswashing compounds, [illegible] ing agents, etc.

PRODUCT DESCRIPTION:

ACL Grade	Chemical Name
85	*Trichloroisocyanuric Acid*
70	Dichloroisocyanuric Acid
59	Potassium dichloroisocyanurate

SHIPPING INFORMATION: Fiber drums with [illegible] liner. ACL*-85 and ACL*-59 270-lbs. net. ACL*-70

AROCLOR* POLYCHLORINATED POLYPHENYLS

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquids, resins or solids.

PROPERTIES: Chlorinated aromatic hydrocarbons; water-white mobile liquids and pale [illegible] light amber resins and opaque [illegible] indices above 1.6125. In general are stable at 120°C.; not affected by boiling water solution. The light oils are [illegible] oils and resins distill readily [illegible] and resins almost odorless and tasteless at peratures.

0557540

TOWOLDMON0005892

GENERAL INFORMATION: Most *Aroclor* materials flux readily with resinous and pitch-like materials to give products having a decreased fire hazard. Viscous oils and resins do not support combustion when heated alone even at their boiling points (temperatures above 300° C.). All have excellent electrical characteristics, high dielectric strength and resistivity, low power factor; certain of the liquids have a high dielectric constant as compared with mineral oils. The oils and resins easily soluble in most common organic solvents and drying oils; hard crystalline materials are, in general, less soluble; all are insoluble in water. The more viscous oils and resins have excellent adhesive properties. All forms are thermoplastic, apparently undergo no further condensation or hardening upon repeated melting and cooling. Nonignitable when exposed to air no noticeable oxidation or hardening takes place. The clear resins have rather low vaporization losses; at 65 ft C. (150° F.) less than 0.01 gm. per sq. in. of surface per month.

USES: Liquid *Aroclors* are used as dielectrics for condensers or capacitors and transformers. Solid *Aroclors* are used to impregnate carbon resistors, and when combined with other plastic materials, the *Aroclors* are excellent sealers or impregnating agents for a variety of electrical apparatus, wire coatings and tape. *Aroclors* are used as plasticizers and resins in lacquers including nitrocellulose, ethyl cellulose and cellulose acetate butyrate; to extend varnish resins and oils and as plasticizer and resin extenders for rubber-base paints, including chlorinated rubber, styrene, butadiene and vinyls. In these protective coatings for metal, masonry and wood, *Aroclors* impart adhesion, resistance against moisture, acids, alkalies or other corrosive influence and they improve electrical insulating properties, durability, and abrasive flammability. They find use as sealers in water proofing compounds, wood preservative formulations, caulking compounds and putty. Employed in asphaltic slimx materials and cellulose products impregnated or blended with asphaltic materials, the *Aroclors* plasticize the asphalt, reduce flammability and improve durability. For printing inks; in precision-casting waxes, floor waxes and other wax products. Used widely in synthetic adhesives including ethyl cellulose, styrene, vinyls and rubber-base materials, *Aroclors* improve adhesion and resistance against corrosive influences. Selected liquid *Aroclors* are used as nonflammable hydraulic fluids for die-casting machines. They are used as activating media for thermostats. *Aroclors* are useful in cutting oils as extreme pressure lubricants, as high-temperature lubricants and as grinding fluids. *Aroclor* 1248 is employed as a nonflammable, liquid-phase, heat-transfer medium for continuous operation in closed systems at temperatures up to 300°C. and at normal atmospheric pressure.

SHIPPING INFORMATION: Resin Synthetic NOIBN without filler, 600-lb. steel drums; 500-lb. net fiber drums; 100-lb. net bags.

BENZYL CHLORIDE *Also known as alpha-chlorotoluene.*

ORGANIC DIVISION—LITERATURE AVAILABLE

FORMULA: $C_6H_5CH_2Cl$



MOLECULAR WEIGHT: 126.58

STANDARD FORM: Liquid.

SPECIFICATIONS: Clear to slightly turbid, colorless to yellow liquid; Sp. Gr. 1.105-1.110 at 15.5°/15.5°C. Boiling range at 760 mm 2°C. max. including 179.4°C.

USES: A highly reactive aralkyl halide used in the production of the following: dyestuffs; perfume bases such as benzyl alcohol, acetate and other esters; plasticizers; resins; wetting agents; vermicides; rubber accelerators; gasoline gum inhibitors; benzyl benzoate; and pharmaceuticals. CAUTION: This product irritates the skin and eyes; avoid skin contact and breathing its vapors. Benzyl Chloride is highly reactive with metals and their derivatives, especially iron, and due care must be exercised in handling, storage and processing of Benzyl Chloride.

SHIPPING INFORMATION: Chemicals NOIBN. Corrosive liquid (white label required). 475-lb. nickel drums; 2000-gal. 2-compartment nickel tank trucks.

BENZYL CHLORIDE, STABILIZED

ORGANIC DIVISION—LITERATURE AVAILABLE

FORMULA: $C_6H_5CH_2Cl$



$+ Na_2CO_3 + H_2O$

MOLECULAR WEIGHT: 126.58

STANDARD FORM: Liquid.

SPECIFICATIONS (for material recovered from stabilized solution): Colorless to yellow liquid; Sp. Gr. 1.105-1.110 at 15.5°/15.5°C.

PROPERTIES: This form of benzyl chloride is stabilized by the addition of 23 lbs. of 10% sodium carbonate solution to 450 lbs. of the chloride. The wet material is a milky-white emul-
[illegible] bottom or top, depending upon the temperature and the concentration of Na_2CO_3. The concentration of Na_2CO_3 slowly decreases on standing.

USES: A highly reactive aralkyl halide used in the production of the following: dyestuffs; perfume bases such as benzyl alcohol, acetate and other esters; plasticizers; resins; wetting agents; vermicides; rubber accelerators; gasoline gum inhibitors; benzyl benzoate; and pharmaceuticals. CAUTION: This product irritates the skin and eyes; avoid skin contact and breathing its vapors. Benzyl Chloride is highly reactive with metals and their derivatives, especially iron, and due care must be exercised in handling, storage and processing.

SHIPPING INFORMATION: Chemicals NOIBN. Corrosive liquid (white label required). 475-lb. steel drums.

CHLORAMINE-T, N. F.

Also known as N-sodium-N-chloro para-toluenesulfonamide.

ORGANIC DIVISION—LITERATURE AVAILABLE

MOLECULAR WEIGHT: 281.70

STANDARD FORM: Crystalline powder.

SPECIFICATIONS: White or faintly yellow powder or crystals; solubility in water 2.15% complete; moisture 18.0-20.0%; available chlorine 24.5-25.2%; assay 97.0% min.; trace max. retained on 10 mesh; 15% retained on 35 mesh.

CHLORINE-CAUSTIC SODA, CAUSTIC POTASH AND SODIUM SULFIDE PLANTS—Complete [illegible] Mercury Cells offered by Engineering Sales Department.

USES: A water-soluble, chlorine-bearing powder used as a germicide, disinfectant and deodorant.

SHIPPING INFORMATION: Disinfectant, Other Than Medicinal NOIBN. 300-lb. fiber drums; 125-lb. lever-paks.

ortho-DICHLOROBENZENE

ORGANIC DIVISION—LITERATURE AVAILABLE

MOLECULAR WEIGHT: 147.01

STANDARD FORM: Liquid.

SPECIFICATIONS: Appearance, practically clear; Color, 30 APHA max.; Crystallizing Point, minus 7.0°C. max.; Distilling Range—first drop 177.7°C. min.—90% (91 ml.) 4.1°C. max.—dry point 188.5°C. max.

USES: Degreasing formulations; tar, grease, paint and carbon removers; spotting agents in dry cleaning; metal polishes; wool and felt scouring; insecticide formulations; and treating of sewage and garbage for odor control.

SHIPPING CLASSIFICATION: ortho-Dichlorobenzol, 55-gal., 18-gauge black iron drums. Gross Weight: 600-lb. approx.

ortho-NITROCHLOROBENZENE

Also known as ortho-chloronitrobenzene.

ORGANIC DIVISION—LITERATURE AVAILABLE

MOLECULAR WEIGHT: 157.56

STANDARD FORM: Cast solid.

SPECIFICATIONS: Green-yellow crystalline mass; crystallizing point 31.7°C.

USES: An intermediate in the synthesis of o-aminophenol (dyestuff intermediate and photographic developer); dichlorobenzidine (chrome-dyestuffs intermediate), and many other organic intermediate chemicals; and a solvent in synthetic-petroleum processes. CAUTION: This material is toxic. Avoid breathing its vapors. Avoid contact with the skin. Toxicity reference: U. S. Public Health Bulletin No. 271 (1941).

SHIPPING INFORMATION: Dye Intermediate NOIBN "Poison" label required. 600-lb. steel drums; tank cars.

para-NITROCHLOROBENZENE

Also known as para-chloronitrobenzene.

ORGANIC DIVISION—LITERATURE AVAILABLE

MOLECULAR WEIGHT: 157.56

STANDARD FORM: Flakes.

SPECIFICATIONS: Light yellow flakes or crystalline mass; crystallizing point 82.3° C. min.

USES: In the manufacture of disodium-benzene meta-disulfonate; para-aminophenol; 2-chloro-5-nitrobenzene sulfonic acid; 2,6-dichloro-4-nitroaniline; and 5-chloro-2-aniline benzene sulfonic acid; pharmaceutical specifications; "Diasone" an agent for treatment of Hansen's disease (Abbott patent); and a variety of antioxidant and gum inhibitors. CAUTION: This product is toxic. Avoid breathing its vapors and avoid contact with the skin. Toxicity reference: U. S. Public Health [illegible]

SHIPPING INFORMATION: Dye Intermediate NOIBN "Poison" label required. 325-lb. fiber drums.

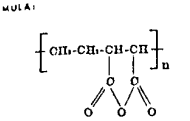
0557541

TOWOLDMON0005893

DX-840 RESINS *(Ethylene Maleic Anhydride Copolymers)*

ORGANIC DIVISION—LITERATURE AVAILABLE

FORMULA:



STANDARD FORM. Fine water-soluble powders available as both straight-chain and cross-linked polymers in a variety of molecular weights.

PROPERTIES AND PERFORMANCE CHARACTERISTICS: The EMA resins are easily converted to the free-acid form; and to its sodium and amide-ammonium salts; and are readily reacted with alcohols and substituted alcohols and with amines to form esters and resins. By selecting the proper reactant, the following types of derivatives can be prepared: thickener-resistant film-formers, polymeric liquids, waxy solids and polyampholytes.

SUGGESTED USES: Beneficiation agent for clays used in oil-well drilling muds; stabilizers and thickeners in liquid detergent and cosmetic formulations; thickeners for water-based latex paints, textile sizes, textile print pastes and binders; suspending agents for ink pigments, thickener for aqueous resin systems, adhesives, binder for foundry cores, etc.

SHIPPING INFORMATION: *Multiwall bags 50 lbs.), F. O. B. Texas City, Texas. Rail and Truck. Sizing NOIBN.*

MALEIC ANHYDRIDE

ORGANIC DIVISION

MOLECULAR WEIGHT: 98.06

STANDARD FORM: Briquettes, fused mass.

SPECIFICATIONS: White briquettes or fused mass, crystallizing point (as produced) 52.5 C. min.; water solution (4 gms. in 10 ml); clear and colorless; assay 99.5% min.; color of melt 20 APHA max.

USES: Used alone or in combination with other acids in the manufacture of alkyd and polyester resins; a versatile intermediate for chemical synthesis. Also used for production of paper and textile sizes, agricultural chemicals and ester comonomers for internal plasticization.

SHIPPING INFORMATION: Maleic Anhydrides. 50-lb. bags; 250-lb. fiber drums; tank cars.

PHTHALIC ANHYDRIDE

ORGANIC DIVISION

MOLECULAR WEIGHT: 148.11

STANDARD FORM: White flakes or fused mass.

SPECIFICATIONS: Solubility in benzene (1:20) clear. Assay 99.5% min.; C.P. 130.8°C. min.

USES: An intermediate in the production of alkyd and polyester resins; drevstuffs; perfume bases; alcohol denaturants; pharmaceuticals; and plasticizers such as octyl phthalate, dibutyl phthalate, dimethyl phthalate, diethyl phthalate and phthalyl alcoliates.

SHIPPING INFORMATION: Phthalic Anhydride. 80-lb. bags; tank cars; tank trucks.

STYRENE MONOMER

See Page M-5/24 and M-5/44

VINYL CHLORIDE MONOMER

See Page M-5/19

UREA, INDUSTRIAL GRADE UNCOATED PELLETS

INORGANIC DIVISION

STANDARD FORM: Urea pelleted form without coating agent.

ANALYSIS:

Nitrogen (Min.)	46.0%
Moisture (Max.)	.5%
Biuret (Max.)	1.0%

USES: Urea Formaldehyde resins for adhesives, plastics, paper and textiles; chemical intermediate, cosmetics, detergents, explosive stabilizer, paints, dentifrice, fermentation, finishes.

SHIPPING INFORMATION: Urea, 50-lb. multiwall paper bags with polyethylene liners. Also in bulk.

AROCLOR* COMPOUNDS

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquids, resins or solids.

PROPERTIES: Chlorinated aromatic hydrocarbons varying from water-white mobile liquids and pale yellow viscous oils to *light amber resins and opaque crystalline solids, refractive indices above 1.6125.* In general are stable on boiling, heating at 150 C.; not affected by boiling with sodium hydroxide solution. Light oils can be distilled at atmospheric pressure without appreciable decomposition and the viscous oils and resins distill readily under vacuum. Viscous oils and resins almost odorless and tasteless at ordinary temperatures.

GENERAL INFORMATION: Most *Aroclor* materials mix readily with resinous and pitch-like materials to give products having a decreased fire hazard. Viscous oils and resins do not support combustion when heated alone even at the *boiling points—temperatures above 300 C.* All have *excellent* electrical characteristics. High dielectric strength and resistivity, low power factor; certain of the liquids have a high dielectric constant as compared with mineral oils. The oils and resins easily soluble in most common organic solvents and drying oils; hard crystalline materials are, in general, less soluble; all are insoluble in water. The more viscous oils and resins have excellent adhesive properties. All forms are thermoplastic, appreciably undergo no further condensation or hardening upon repeated melting and cooling. Noteworthy when exposed to air no noticeable oxidation or hardening takes place. The clear resins have rather low saponification losses; at 65.8°C. (150 F.) less than 0.01 mm. per sq. in. of surface per month.

USES: Liquid *Aroclors* are used as dielectrics for condensers or capacitors and transformers. Solid *Aroclors* are used to impregnate carbon resistors, and when combined with other plastic materials, the *Aroclors* are excellent sealers or impregnating agents for a variety of electrical applications, wire coatings and tape. *Aroclors* are used as plasticizers and resins in lacquers including nitrocellulose, ethyl cellulose and cellulose acetate butyrate; to blend with chlorinated rubber and oils and as plasticizer and resin extenders for rubber-base paints, including chlorinated rubber styrene, butadiene and vinyls. In these protective coatings for metal, masonry and wood, *Aroclors* impart adhesion, resistance against moisture, acids, alkalies or other corrosive influence and they improve electrical insulating properties, durability and reduce flammability. They function as sealers in waterproofing compounds, wood preservative formulations, caulking compounds and putty. Employed in asphaltic sizing materials and cellulose products impregnated or laminated with asphaltic materials, the *Aroclors* plasticize the asphaltic, reduce combustibility and improve durability. For printing inks in precision-casting waxes, floor waxes and other wax products. Used widely in synthetic adhesives including ethyl cellulose, styrene, vinyls and rubber-base materials. *Aroclors* improve adhesion and resistance against corrosive influences. Selected liquid *Aroclors* are used as nonflammable hydraulic fluids for die-casting machines. They are used as actuating media for thermostats. *Aroclors* are useful in cutting oils as extreme pressure lubricants, as high-temperature lubricants and as heating fluids. *Aroclor* 1248 is employed as a nonflammable, liquid-phase, heat-transfer medium for continuous operation in closed systems at temperatures up to 300 C. and at normal atmospheric pressure.

SHIPPING INFORMATION: Resin Synthetic NOIBN without filler. 600-lb. steel drums; 500-lb. net fiber drums; 100-lb. net bags.

DI-2-ETHYLHEXYL ADIPATE (DOA)

ORGANIC DIVISION—LITERATURE AVAILABLE

MOLECULAR WEIGHT: 370.56

STANDARD FORM: Liquid.

SPECIFICATIONS: Clear oily liquid; color APHA 25 max.; odor mild; acidity (as adipic acid) 0.02% max.; Sp. Gr. 0.924 ±0.003 at 25/25 C.

USES: A primary plasticizer which imparts excellent low temperature flexibility to polyvinyl chloride, natural and synthetic rubbers. Used in conjunction with DOP and TCP in 60-160 to make quality vinyl garden hose. Dilutent for low volatility to vinyl plastisols for cloth coating, wire coating, etc. Imparts excellent heat and light stability and resistance to [illegible]

SHIPPING INFORMATION: Resin Plasticizer. 55 and 5-gal. drums; tank cars, tank trucks wherever possible.

0557542

TOWOLDMON0005894