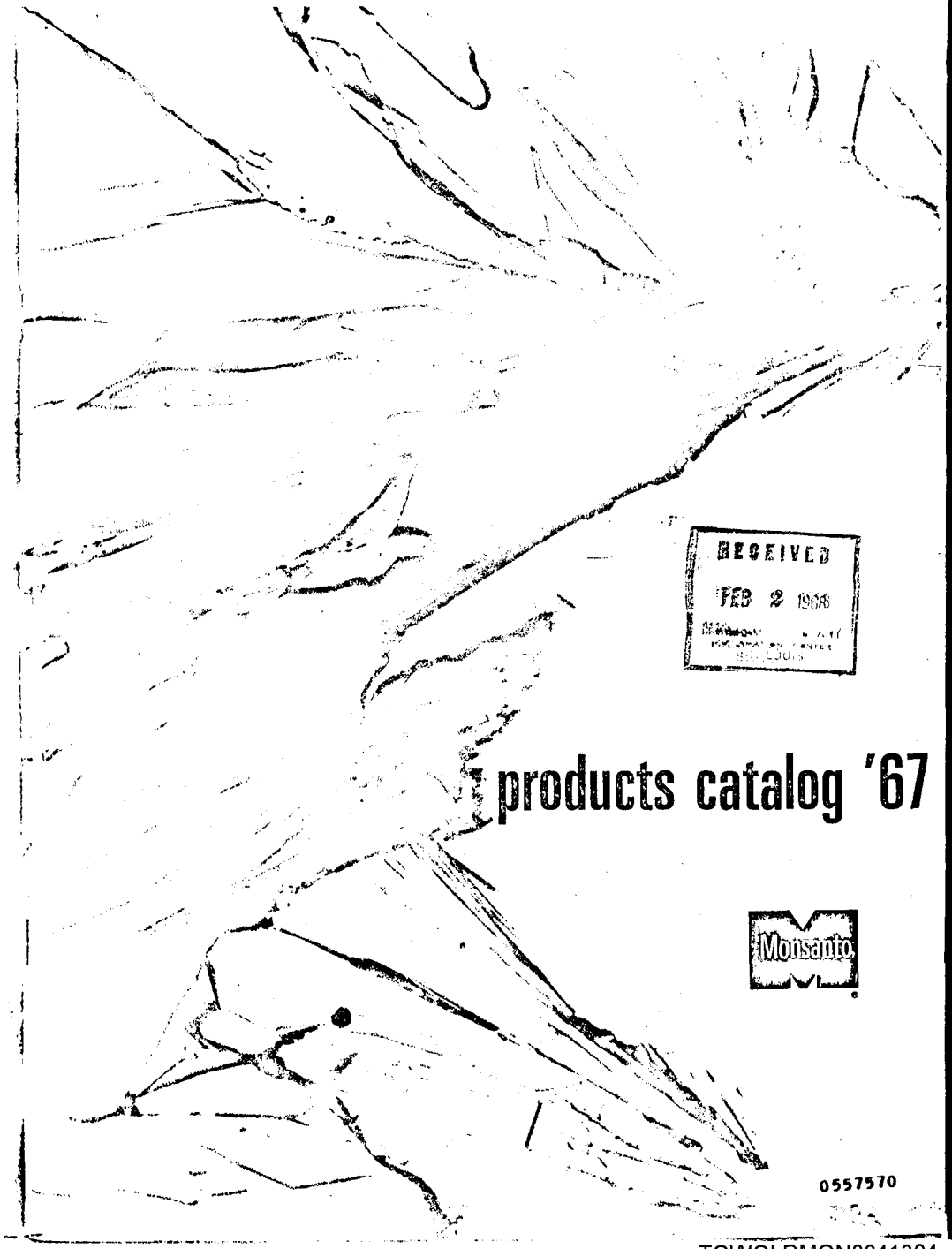

RECEIVED
FEB 2 1968

products catalog '67

Monsanto

0557570

TOWOLDMON0041304
WATER_PCB-00032350

Monsanto Markets on Many Fronts

AGRICULTURAL CHEMICALS: Monsanto's fertilizer materials, weed and insect killers, and animal feed supplements help feed the world by boosting farm productivity.

DRUG AND PHARMACEUTICAL: Includes aspirin, topical analgesics and a complete line of job-tailored phosphate dentifrice abrasives for therapeutic and cosmetic pastes and powders.

DETERGENTS, SOAPS AND SANITIZERS: Phosphate builders, anionic and nonionic surface active agents: bacteriostats and bactericides for applications as diverse as bar soaps and industrial disinfectants.

ELECTRONICS: Monsanto provides ultrapure silicon for semiconductor material needs and a growing line of counter/timers, digital voltmeters and pulse generators for the electronic test and measurement area.

FOOD AND FOOD PROCESSING: More than 35 food ingredients include non-nutritive sweeteners, acidulants, flavorings, preservatives, leavening agents, emulsifiers and protein interactants.

PACKAGING: Formed containers from a variety of plastic materials are custom designed to meet specific market requirements. Plastic vending machine cups and clear meat trays are among this group.

PAPER CHEMICALS: From Monsanto, Paper's Partner in Progress, comes a complete family of internal and external sizes, mill slimicides, coating resins, anti-skid agents, wet-strength resins and heavy chemicals.

PETROLEUM PRODUCTS AND ADDITIVES: Includes Lion brand gasoline and motor oils plus a complete line of additives for making more efficient, longer lasting fuels, motor oils and gear lubricants.

PLASTICS AND PLASTICIZERS: One of the industry's most helpful, knowledgeable one-source suppliers of thermoplastic thermosetting materials; complete line of plasticizers for even the hardest-to-plasticize applications.

RUBBER CHEMICALS: Monsanto serves the rubber industry with antioxidants, antizonants, accelerators and monomers for synthetic rubber. Vulcanizing agents are another important segment of this category.

SURFACE COATING MATERIALS: This group supplies ingredients for paints, baking enamels, auto finishes, water based paints and wood finishes. Plasticizers and fire retardants are also contributed to the industry.

TEXTILE FIBERS AND CHEMICALS: Principally the products of Chemstrand Company Division, they consist of nylon yarns, Acrilan acrylic fibers, spandex stretch yarns and polyester fibers. Fiber and fabric frictionizers complement this area.

COVER: Microphotograph of pure saccharine crystals

0557571

TOWOLDMON0041305
WATER_PCB-00032351

Monsanto products are sold through the following divisions:

Agricultural Division
Chemstrand Company Division
Hydrocarbons and Polymers Division
Inorganic Chemicals Division
International Division
Organic Chemicals Division
Packaging Division
Plastic Products and Resins Division

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 and its subsidiaries. Trademarks which are registered in the U. S. Patent office are followed by the ® and unregistered trademarks and trademarks for which registration is pending are followed by an asterisk.

ALPHABETICAL PRODUCT INDEX

A

A-1* Thiocarbanilide (Rubber Chemical) 57
A-32* and A-100* (Rubber Chemicals) 57
Accelerator B* Additive 57
Acetates, polyvinyl 44
Acetone 26
Acetophenetidin U.S.P. 24
Acidulants 15
Acids and Anhydrides (Carboxylic) 20
Acetylsalicylic Acid (Aspirin) 24
ACL® Sanitizer and Bleaching Compound 67
Acrilan® Acrylic Fiber 13
Acrylonitrile 23
Actamer® 61
Adhesives 59
Adhesives Components 59
Adipic Acid, Food and Technical Grade 15
Agricultural and Farm Products 8-12
Air Pollution Control Devices
Aircraft Hydraulic Fluids 14
Alcohol Resins, polyvinyl 45
Alkalate 215, 225 and 230 (Alkyl Benzene — Biodegradable) 67
Alkophos® (Aluminum Acid Phosphates) 29
Alkyd Acid Phosphates 29
Alkyl Aryl Phosphate (Santicizer® 141) 53
Alkyl Benzene Biodegradable 54
Alkyl Benzene Sulfonate — Biodegradable) 53
Alkyl Benzene Sulfonic Acid -- Biodegradable 53
Alkyl Benzene Sulfonic Acid Anhydrous — Biodegradable 53
Alkyl Phenol (Nonylphenol) 54
Alkylanile C-12 (Dodecylaniline) 22
Alpha and Beta Radioactive Sources (Monsanto Research Corp.) 20
Aluminum Acid Phosphates (Alkophos®) 29
Aluminum Chloride Solution 32 Be 19
Aluminum Sulfate 64
Amines ..... 21 and 22
Ammonia, Anhydrous 9
Ammonia, Aqua 9
Ammonium Nitrate Fertilizer Pellets 8
Ammonium Nitrate 83% Solution 9
Ammonium Phosphate, di (Feed Grade) ..... 8 and 27
Ammonium Phosphate, di (Fertilizer Grade) 8
Ammonium Phosphate, ethyl 27
Ammonium Phosphate, mono 27
Ammonium Phosphate, triethyl 27
Anionic Surface Active Agents 66
Anisidine, ortho 21
Anisidine, para 21
Anti-Caking Flow Conditioners 60
Anti-Foaming Agents 60
Antioxidants 61
Anti-Slip and Anti-Soil Agents ..... 60 and 61
Aroclor® Polychlorinated Polyphenyls 22
Aspirin 24
Avadex® Herbicide 9
Avadex® BW Herbicide 9

B

Bacteriostats 61
Battery Acid (Electrolyte) 19
Benthal® Alkyd Resin Intermediate 63
Benzene 31
Benzoic Acid, U.S.P. and Technical 17
Benzyl Benzoate N.F. 26
Benzyl Chloride 22
Benzyl Chloride (inhibited with 0.25% triethylamine) 22
Beta & Alpha Radioactive Sources 18
Biphenyl 26
Bisphenol A 48
Bisphenol A—Hydrogenated (HBPA*) 48
Bleaching Compounds 67
Bone Ash, (Natural) 62
Bremsstrahlung Sources (Monsanto Research Corp.) 20
BRINK® ENGINEERED EQUIPMENT
Brink® Cascade Impactor 14
Brink® Coalescer 14
Brink® Filter 14
Brink® Mist Eliminator 14
Brink® Mist Sampler 14
Brush-Blitz* Herbicide 11
Brush Killers 10
Brush-O-Cide* Herbicide 11
Buffering Agents 17
Building Products 12
Lustra-Span® Vinyl Building Panels 12
Monsanto® Foam Board 12
Monsanto® Vinyl Gutters and Downspouts 12
Monsanto® Vinyl Siding 12
Silent-Cor* for Sound Control 12
Thermo-Lath* Waterproof Insulating Plasterbase 12
Butadiene 23
Butene-2 Concentrate 31
Butvar® Resins 45
Butvar® Resin Dispersions BR and FP (polyvinyl butyral) 45
Butyl Benzyl Phthalate (Santicizer® 160) 51
Butyl Decyl Phthalate (Santicizer® 603) 52
Butyl Phthalyl Butyl Glycollate (Santicizer® B-16) 53
Butylenes—Mixed Isomers 31
Butyral, polyvinyl resins (Butvar®) 45

C

C_4 Stream (Mixed Hydrocarbons) 31
C_8 Aromatic Concentrate (Mixed Isomers) 31
Caffeine Anhydrous U.S.P. 16
Calcium Cyclamate U.S.P. (Dietose®) 17
Calcium Phosphates ..... 27 and 28
Calcium Pyrophosphate 27
Calcium Silicate (Slag) 19
Calibration Radioactive Sources (Monsanto Research Corp.) 20
Carbon Dioxide 19
Carboxylic Acids and Anhydrides 20
Casein and Soybean Adhesives 59
Catalyst AC Series 62
Caustic Potash 19
Cellulose Acetate Sheet Vuepak® 44
Chemical Fibers 13
Chemical Specialty Catalysts 62
CHEMSTRAND® CHEMICAL FIBERS (Acrilan®)
Acrylic Fiber, Cumuloft® Nylon, Polyester and Spandex 13
Chloramine-T 61
Chloroaniline, para 21
Chlorophenol, ortho 24
Chlorotoluene, para 24
Chlorosulfonic Acid 25
Coagulants 17
Coal Tar Resins 47
Colloidal Silicas (Syton®) 48
Colorants 43
Compressor Lubricant (Pydraul® AC) 18
Coolanol® 35 Dielectric Coolant for Electronic Equipment 13
Coolanol® 45 Dielectric Coolant for Electronic Equipment 13
Coumarin 63
Counter, Timer Model 1000 15
Counter/Timer Model 1010 15
Cresyl Diphenyl Phosphate (Gasoline Grade) 30
Cresyl Diphenyl Phosphate (Plasticizer Grade) 53
Crop-Guard* Herbicide 10
Curing Agents 62
CWS® Fumaric Acid, Food and Technical Grades 15
Cyanuric Acid 26
Cyclohexanol 26
Cyclophexylamine 21

D

2,4-D Amine Herbicide 10
2,4-D Butyl Ester Herbicide 10
2,4-D Butyl Ester Concentrate Herbicide 10
2,4-D Granular Herbicide 10
2,4-D Isopropyl Ester Herbicide 10
2,4-D Low Volatile Ester Herbicide 10
2,4-D 2,4,5-T Amine Herbicide 11
2,4-D/2,4,5-T Butyl Ester Herbicide 11
2,4-D 2,4,5-T Low Volatile Ester Herbicide 11
DDBSA 99-B 66
DDBSA 99LF-B 66
Defoamer (PC-1244®) 48

0557572

TOWOLDMON0041306
WATER_PCB-00032352

Dentifrice Abrasives
Dequest® 2000 Deflocculating and Sequestering Agent....30
Dequest® 2006 Deflocculating and Sequestering Agent....30
Dicalcium Phosphate Anhydrous....27
Dicalcium Phosphate Dihydrate....27
Insoluble Metaphosphate....28
Lustre—Phos®....28
Tricalcium Phosphate....28

Detergent Intermediates....67
Diammonium Phosphate....27
Diammonium Phosphate, Feed Grade....8
Diammonium Phosphate, Fertilizer Grade....8
Dibutyl Fumarate....48
Dibutyl Maleate....48
Dibutyl Phthalate....49
Dicalcium Phosphate Anhydrous....27
Dicalcium Phosphate Dihydrate....27
Dicalcium Phosphate, Feed Grade....8
3,4-Dichloroaniline, (3,4-DCA)....21
Dichlorobenzene, ortho....22
Dichlorobenzene, para (Santochlor®)....11
2,4-Dichlorophenol....24
Dicyclohexyl Phthalate (DCHP)....49
Dicyclopexylamine....21
Dielectric Coolant for Electronic Equipment (Coolanol® 45)....13
Diethyl Phthalate....49
Dietose® Calcium Cyclamate U.S.P.....17
Dietose® Sodium Cyclamate N.F.....17
Di-2-Ethylhexyl Adipate (DOA)....49
Di-2-Ethylhexyl Phthalate (DOP)....49
Digital Voltmeter Model 2000....15
Dihydroxy Diphenyl Sulfone....25
Diisodecyl Adipate (DIDA)....49
Diisodecyl Phthalate (DIDP)....50
Diisooctyl Phthalate (DIOP)....50
Dimethyl Phthalate....50
Di-N-Octyl, N-Decyl Adipate (DNODA)....49
Dioctyl Fumarate (DOF)....48
Dioctyl Maleate (DOM)....48
Di-N-Octyl, N-Decyl Phthalate (DNODP)....49
Diphenyl (Biphenyl or Phenylbenzene)....24
Diphenyl Phthalate....50
Diphenylguanidine (DPG)....57
Diphenylguanidine Phthalate (Guantal®)....45

Disinfectants....61
Disodium Phosphate, Anhydrous....28
Disodium Phosphate, Duohydrate....28

Dispersing Agents....17
Dodecylaniline....22
Downspouts and Gutters....12
D. P. Solution®....63
Drycol® "UC" Dry Colorants....43
Dytrol® (Paint Brush Preserver)....50

E

E-2* Ammonium Nitrate Fertilizer Pellets....9
El-Sixty® (Rubber Chemical)....56
Elastopar® (Rubber Chemical)....59
Electronic Instruments....15

Electronic Products....13, 14 and 15
EMA® Resins....48

Emulsifiers....17

Equipment and Instruments....14 and 15
Brink Cascade Impactor....14
Brink Coalescer....14
Brink Filter....14
Brink Mist Eliminator....14
Brink Mist Sampler....14
Counter/Timer Model 1000....15
Counter/Timer Model 1010....15
Digital Voltmeter Model 2000....15
Oscillating-Disk Rheometer....15
Pulse Generator Model 3000....15
Ethavan®....16
Ethyl Acetate....27
Ethyl Ammonium Phosphate....27
Ethyl Parathion Insecticide....11
Ethyl PCT Pesticide Intermediate....26
Ethyl Phthalyl Ethyl Glycollate (Santicizer® E-15)....53
Ethyl Vanillin (Ethavan®)....16
Ethylene....31

Ethylene and Ethylene Co-Products....31

F

Far-Go® Herbicide....9

Farm Products....8-12

Feed Supplements....8
Ferrophosphorus (Iron Phosphide)....30

Fertilizers....8 and 9

Fibers....13
Field-Clean* Herbicide....10

Fire Retardants....62

Flavors....16
Flavorings....62
Flecto® H (Rubber Chemical)....57
Foam Board (Monsanto®)....12

Food Ingredients....15-17
Formal, polyvinyl resins (Formvar®)....45
Formaldehyde....27

Formaldehyde Resins....49
Formvar® Resins (polyvinyl formal)....45
Fruit Spray (Stop Scald*)....12
Fuel Oil Additives (Santolene®)....32
Fumaric Acid, Food and Technical Grades....15
Fumaric Acid (CWS®), Food and Technical Grades....15

Functional Fluids....18 and 19

Fungicides....61

Fungistats....61

G

Gallium Antimonide (Electronic Grade)....13
Gallium Arsenide (Electronic Grade)....13
Gallium Arsenide Phosphide Alloys (Electronic Grade)....13
Gallium Phosphide (Electronic Grade)....13
Gamma Radioactive Sources (Monsanto Research Corp.)....20

Gasolines
Lion Premium Gasoline with Lionite® Additives....33
Lion Regular Gasoline with Lionite® Additives....33
Premium Gasoline....33
Regular Gasoline....33

Gear Lubricants....34
Lion All-Purpose Gear Lubricant....34
Lion Gear Lubricant Mineral....34
Gear Oil Additives (Santopoid®)....33
Gelva® Copolymer Resins (polyvinyl acetate)....44
Gelva® Copolymer Solutions (polyvinyl acetate)....44
Gelva® Emulsions (polyvinyl acetate)....44
Gelva® Powders 700 and 702 (polyvinyl acetate)....44
Gelva® Resins (polyvinyl acetate)....44
Gelva® Resin Solutions (polyvinyl acetate)....44
Gelvatol® Polyvinyl Alcohol Resin....45
Gering® Bags and Liners....55

Germicides....61
Ger-Pak® Sheeting....55
Ger-Pak® Tape....55
Glacial Acetic Acid....27
Glassy Sodium Phosphate (Oilfos®)....29

Greases
Lion AC Track Roller Grease....34
Lion All Weather Chassis Grease....34
Lion Barium 4-in-1 Greasc....34
Lion Cotton Picker Spindle Grease....34
Lion Multi-Purpose A.F. Grease....34
Lion Wheel Bearing Grease....35
Guantal® (Diphenylguanidine Phthalate)....57
Guaiacol....23
Gutters and Downspouts....12

H

H Acid....20

Halogen-Containing Compounds....22 and 23
HBPA* Hydrogenated Bisphenol A....48

Hormone Herbicides....10
HB-40® Partially Hydrogenated Terphenyl....50
Heat Radioactive Sources (Monsanto Research Corp.)....20
Heat Transfer Liquids (Therminol®)....19

Heavy Chemicals....19 and 20
Herbicidal Oil No. 1 (Lion)....10
Herbicidal Oil Nos. 6 and 7 (Lion)....10

Herbicides (Pre- and Post-Emergence)....9 and 10
Herbicides (Hormone)....10-11
H. T.® Monocalcium Phosphate (Monohydrate)....16
Hexahydroaniline (Cyclohexylamine)....21

Hydraulic Fluids....14 and 15
Hydrochloric Acid (Muriatic Acid)....19

I

Indium Antimonide (Electronic Grade)....13
Indium Arsenide (Electronic Grade)....13
Indium Phosphide (Electronic Grade)....13

Industrial Asphalts
Lion 5A60® Primer....36
Lion Asbestos Asphalt Roof Coating....36
Lion Asphalt Plastic Roofing Cement....36
Lion Blind Nailing Roofing Cement....37
Lion Bondite® Adhesive Asphalt....37
Lion Cold Process Ashpalt....37
Lion Cold Process Lap Asphalt....37
Lion Dead Level Roofing Asphalt....37
Lion Dry-Kiln Mastic....37
Lion E-120®-A Asphalt....37
Lion E-120®-HL Asphalt....37
Lion E-120®-HL Primer....37
Lion Metal Coating No. 3....38
Lion Nokorode® Brush Cement....38
Lion Nokorode® Butter Asphalt....38
Lion Nokorode® Car Cement....38
Lion Nokorode® Chassis Black....38

0557573

TOWOLDMON0041307
WATER_PCB-00032353

Lion Nokorode® Coach Builders Sound Deadener....38
Lion Nokorode® Coach Builders Undercoating....38
Lion Nokorode® Construction Asphalts....38
Lion Nokorode® Cork Undercoating....38
Lion Nokorode® D-41 Asphalt....39
Lion Nokorode® E Kote....39
Lion Nokorode® 9G54A....39
Lion Nokorode® Government Rust Preventives....39
Lion Nokorode® K Kote....39
Lion Nokorode® Low Temp....39
Lion Nokorode® Roof Perm....40
Lion Nokorode® Roof Seal....40
Lion Nokorode® Roof Therm....40
Lion Nokorode® Seam and Backing Cement....40
Lion Nokorode® Seal Kote....40
Lion Nokorode® Seal Kote....41
Lion Nokorode® SP Asphalt....41
Lion Nokorode® Seal Perm....41
Lion Nokorode® Skin Kote....41
Lion Nokorode® Under Car Sealer and Silencer....41
Lion Nokorode® No. 2002 Undercoating and Sound Deadener....42
Lion Nokorode® Waterproofing Compound....42
Lion Paper Laminant....42
Lion Pole Compound....42
Lion Solid Roofing Asphalt....42

Industrial Oils

Lion Azalea® Oils....34
Lion Balze® Oils....34
Lion Coda® Oils....34
Lion Cylinder Oil....34

Insecticides....11

Insoluble Metaphosphate....28
Insoluble Sulfur 60....59
Iron Phosphide (Ferrophosphorus)....30
Isooctyl Isodecyl Phthalate (Santicizer® 602)....52

L

Lactic Acid, Food and Technical Grades....15
Lambast® Herbicide....10
Lampblack....63

Leavening Agents....16

Levn-Lite* Leavening Agent....16
Limit® Herbicide....9
Lion* Asphalt Products....36-43
Lion Herbicidal Oil No. 1....10
Lion Herbicidal Oil Nos. 6 & 7....10
Lion® Petroleum Products/Chemicals....33-36
Lustran® ABS and SAN Molding and Extruding Compounds....43
Lustra-Span® Vinyl Building Panels....12
Lustre-Phos® Dentifrice Abrasive....28
Lustrex® Styrene Extruding and Calendering Material....43
Lustrex® Styrene Molding Compound....43
Lytron® Resins....43
Lytron® Latices....43

M

Maleic Anhydride....20
Masterbatch Color Concentrates....43
MCP Amine Herbicide....10
MHA® Methionine Hydroxy Analog....8

Melamine-Urea Resins....47

Mersize® (Paper Sizing Agent)....64
Mertone® WB-4 (Precoat for Reproduction Papers)....64

Metal Processing Compounds....62

Methanol....23
Methapyrilene Fumarate (Thenylpyramine Fumarate)....24
Methapyrilene Hydrochloride (Thenylpyramine Hydrochloride)....24
Methyl Diphenyl Phosphate (Phostane® Brand of MDP)....32
Methyl Parathion Insecticide....11
Methyl Parathion (Stabilized) (Insecticide)....11
Methyl PCT Pesticide....25
Methyl Phthalyl Ethyl Glycollate (Santicizer® M-17)....52
Methyl Salicylate U.S.P....16
Mixed Acid (Nitrating Acid)....19
Modaflow® Resin Modifier....21
Mod-Epox® Epoxy Resin Modifier....50
Monoammonium Phosphate....27
Monocalcium Phosphate (Monohydrate)....16
Mono Thiurad® (Rubber Chemical)....57

Monomers....23 and 24

Monomers for Synthetic Rubber....47

Monopotassium Phosphate....28
Monosodium Phosphate....8 and 29
Monsanto® Foam Board....12
Monsanto® Penta (Pentachlorophenol Technical)....61
Monsanto® Plastic Nestable Containers....65
Monsanto® Polyethylene Extrusion Coating Materials....46
Monsanto® Polyethylene Film and Sheet Material....46
Monsanto® Polyethylene Molding Compounds....46
Monsanto® Polyethylene Wire & Cable Compounds....46
Monsanto Research Corp....20
Monsanto® Vinyl Gutters and Downspouts....12
Monsanto® Vinyl Siding....12
Montar® Synthetic Resins....50

Motor Oils

Lion Extra Heavy Duty Naturalube® Motor Oil....35
Lion HDX Motor Oil....36
Lion Multi-Temp Naturalube® Motor Oil....36
Lion Naturalube® Automatic Transmission Fluid....36
Lion Naturalube® Motor Oil....36
Lion Naturalube® Outboard Motor Oil....36
Lion (New Improved) Naturalube® Outboard Motor Oil....36
Lion Super Duty Naturalube® Motor Oil....36
Tiger® Motor Oil....36
Mould Coat (Synthetic Bone Ash)....62
Muriatic Acid (Hydrochloric Acid)....19

N

NFB® 80 and 85 (Non-Fuming Aluminum Bright Dip Bath)....63
Niran® 6-3 Insecticide (Soil)....11
Niran® 10-G Insecticide (Soil)....11
Niran® 10-10 Insecticide (Soil)....11
Nitrating Acid (Mixed Acid)....17
Nitric Acid....19
Nitroaniline, ortho....22
Nitroaniline, para....22
Nitrochlorobenzene, ortho....23
Nitrochlorobenzene, para....23
Nitrogen Fertilizer Solutions....8
Nitrophenol, para....25

Nonionic Surface Active Agents....66 and 67

Non-Nutritive Sweetners....16-17

Nonylphenol—Alkyl Phenol....67

Nuclear Sources....20

Nutrition Supplements....17

Nutrium® Fertilizer....9
Nylon 66....11
Nylon Resin....43
Nylon 6/6 and 6/10 Resin....43

O

Odorants....63

Oil Additives (Santolube®)....29
Oilfos® Glassy Sodium Phosphate....29

Oils—Light

Aromatic Oils....35
Burner Oil....35
Butane-Propane Mixture....35
Diesel Fuel....35
Herbicidal Oil No. 1....35
Herbicidal Oils Nos. 6 & 7....35
Ink Oil....35
Kerosene....35
Propane....35
Residual Fuel Oil....35
Tractor Distillate....35

Oils—Lubricating

Neutral Oils....34

Oleum....17

Opalon® Polyvinyl Chloride Extruding and Calendering Material....45
Opalon® Polyvinyl Chloride Molding Compound....45

Organic Chemicals....20-27

Organic Nuclear Reactor Coolant (Santowax® OMP)....19
ortho-Anisidine....21
ortho-Chloroaniline....21
ortho-Chlorophenol....24
ortho-Dichlorobenzene....22
ortho-Nitroaniline....22
ortho-Nitrochlorobenzene....23
ortho-Phenetidine....22
ortho-Tolyl Biguanide (Sopanox®)....49
Oscillating-Disk Rheometer....15
OS-45® Type III (High Temp. Hydraulic Fluid for Aircraft)....14
OS-45® Type IV (High Temp. Hydraulic Fluid for Aircraft)....14

P

Packaging....55 and 56

Paint/Coating Ingredients....63

Pan-O-Lite®....16

Paper Chemicals....64 and 65

Paper-Sizing Agent (Mersize®)....52
para-Anisidine....21
para-Chloroaniline....21
para-Chlorophenol....24
para-Dichlorobenzene (Santochlor®)....11
para-Nitroaniline....22
para-Nitrochlorobenzene....23
para-Nitrophenol....25
para-Phenetidine....22
para-Toluenesulfonamide....25
para-Toluenesulfonyl Chloride....25
Parathion—Ethyl and Methyl (Insecticide)....11

Paving Asphalts

Asphalt Cements and Cutback Asphalts....42
Lion Colar Paving Asphalt....42
Lion D-80 Joint Compound....42
Lion Membrane Lining....43
PC-1244® Defoamer....60
Pentachlorophenol, Technical (Monsanto® Penta)....49

Petro Chemicals....31

0557574

TOWOLDMON0041308
WATER_PCB-00032354

Petroleum Additives ..... 32 and 33
Petroleum Products and Chemicals (Lion®) 33-43
Pharmaceuticals 24
Phenacetin (Acetophenetidin U.S.P.) 24
Phenetidine, ortho 22
Phenetidine, para 22
Phenol 25
Phenols ..... 24 and 25
Phenolic and Resorcinol Resins 59
Phenolic Resins (Resinox®) ..... 46 and 47
Phenolic Varnishes (Resinox®) 47
Phenolphthalein U.S.P. 24
Phenolphthalein, Yellow 24
Phenolsulfonic Acid 25
Phenylbenzene (Biphenyl) 26
Phos-Chek® Fire Retardant 62
Phos-Chek P/30 64
Phosgard® C-22-R Organophosphorus Compound 48
Phosphate Feed Solution 8
Phosphates (Sodium) ..... 28 and 29
Phosphatic Fertilizer Solution 9
Phospholeum® Super Phosphoric Acid ..... 9 and 28
Phosphoric Acids 28
Phosphoric Acid (75, 80 and 85%) 28
Phosphoric Anhydride (Phosphorus Pentoxide) 30
Phosphorus and Phosphorus Derivatives 27-31
Phosphorus, Elemental 30
Phosphorus Oxychloride 30
Phosphorus Pentasulfide 30
Phosphorus Pentoxide (Phosphoric Anhydride) 30
Phosphorus Trichloride 30
Phostane® Brand of MDP (Methyl Diphenyl Phosphate) 32
Phthalic Anhydride 48
Phthalyl Chloride 23
Plastic Bottles and Containers 55
Plastic Closures 55
Plastic Fitments 55
Plastic Food Tubs 55
Plastic Meat Trays (Clear) 55
Plastic Vending Cups 55
Plasticizers 49-55
Plastics-Resins-Plasticizers 43-55
Plax® Products 55
Polyamide 6/6 and 6/10 Resin 16
Polyester 13
Polyethylenes 46
Polyflex® Film 56
Polyflex® Sheet 56
Polyvinyl Acetates 44
Polyvinyl Acetate Copolymer Resins (Gelva®) 44
Polyvinyl Acetate Copolymer Solutions (Gelva®) 44
Polyvinyl Acetate Emulsions (Gelva®) 44
Polyvinyl Acetate Powders (Gelva®) 44
Polyvinyl Acetate Resins (Gelva®) 44
Polyvinyl Acetate Resin Solutions (Gelva®) 44
Polyvinyl Alcohol Resins (Gelvatol®) 45
Polyvinyl Butyral Film (Saflex® Vinyl Butyral) 45
Polyvinyl Butyral Resins (Butvar® Resin) 45
Polyvinyl Butyral Resin Dispersions 45
Polyvinyl Formal Resins (Formvar®) 45
Post-Emergence Herbicides 10
Potassium Phosphates 28
Pre-Emergence Herbicides ..... 9 and 10
Preservative—Stop Scald* Fruit Spray 12
Preservatives ..... 12 and 17
Propylene 31
Protein Interactants 17
Pulse Generator Model 3000 15
Pydraul® AC Compressor Lubricant 18
Pydraul® Hydraulic Fluids ..... 18 and 19
Py-Ran® Anhydrous Monocalcium Phosphate 16

R

R-2* Crystals (Rubber Chemical) 57
Radioactive Sources (Monsanto Research Corp.) 20
Ramrod® Herbicide 10
Randox® Herbicide 10
Randox® T Herbicide 10
Resimene® Melamine and Resimene® U Urea 47
Resimene® Melamine 47
Resin Materials ..... 47 and 48
Resin Oil 31
Resin PR 31
Resinous Polyol (RJ 100®) 37
Resinox® Liquid Phenolic Resins 47
Resinox® Phenolic (Lump, Flake and Resin Compound) 46
Resinox® Phenolic Resin Liquid Solutions 47
Resinox® Phenolic Resin Varnishes 47
Resloom® Melamine 47
Resorcinol and Phenolic Resins 47
RJ-100® Resinous Polyol 48
Rock Salt (Sodium Chloride) 17
Rogue® Herbicide (Rice) 10
Roundup* 10
Rubber Chemicals 56-59
Accelerators for Natural and Synthetic Rubbers
Aldehyde Amine Type 57
Antioxidants and Antiozonants 57-59
Guanidine Type 57
Rubber Instruments 59
Special Materials 59
Thiocarbanilide Type 57
Thiozole Type 56
Ultra Type 57
Monomers for Synthetic Rubber 59
RZ-50®-A (Rubber Chemical) 57
RZ-50®-B (Rubber Chemical) 57
Rubber Instruments 47
Oscillating-Disk Rheometer LS, LSD, LHS 47

S

Saccharin (Calcium and Sodium) U.S.P. 16
Saflex® Vinyl Butyral 45
Salicylic Acid, U.S.P. 21
Salt Cake (Sodium Sulfate Anhydrous Technical) 64
Santicizer® 1-H Plasticizer 52
Santicizer® 3 Plasticizer 52
Santicizer® 8 Plasticizer ..... 26 and 52
Santicizer® 9 Plasticizer 52
Santicizer® E-15 Plasticizer 53
Santicizer® B-16 Plasticizer 53
Santicizer® M-17 Plasticizer 52
Santicizer® 140 Plasticizer 53
Santicizer® 141 Plasticizer 53
Santicizer® 160 Plasticizer 51
Santicizer® 165 Plasticizer 53
Santicizer® 213 Plasticizer 51
Santicizer® 214 Plasticizer 53
Santicizer® 215 Plasticizer 51
Santicizer® 262 Plasticizer 51
Santicizer® 268 Plasticizer 51
Santicizer® 405 Permanent Plasticizer 53
Santicizer® 407 Permanent Plasticizer 53
Santicizer® 409 Polymeric Plasticizer 54
Santicizer® 411 Plasticizer 54
Santicizer® 462 Permanent Plasticizer 54
Santicizer® 480 Permanent Plasticizer 54
Santicizer® 481 Permanent Plasticizer 54
Santicizer® 482 Permanent Plasticizer 54
Santicizer® 483 Permanent Plasticizer 54
Santicizer® 602 Plasticizer 52
Santicizer® 603 Plasticizer 52
Santicizer® 630 Plasticizer 54
Santicizer® 631 Plasticizer 54
Santicizer® 636 Plasticizer 54
Santicizer® 644 Plasticizer 55
Santicizer® 683 Plasticizer 55
Santobrite® (Sodium Pentachlorophenate, Technical) 61
Santocel® (Silica Aerogel for Industrial Applications) 60
Santocel® (Silica Aerogel for Thermal Insulation) 60
Santocel® 92 Flatting Agent 64
Santocel® L Flatting Agent 64
Santocel® Z Aerogels 66
Santochlor® (para-Dichlorobenzene) 11
Santocure® (Rubber Chemical) 56
Santocure® 26 (Rubber Chemical) 56
Santocure® MOR and MOR-90 (Rubber Chemicals) 56
Santocure® NS (Rubber Chemical) 56
Santoflex® AW (Rubber Chemical) 57
Santoflex® DD (Rubber Chemical) 58
Santoflex® 13 (Rubber Chemical) 58
Santoflex® 17 (Rubber Chemical) 58
Santoflex® 36 (Rubber Chemical) 58
Santoflex® 75 (Rubber Chemical) 58
Santoflex® 77 (Rubber Chemical) 58
Santoflex® 217 (Rubber Chemical) 58
Santolene® C (Fuel Oil Additive) 32
Santolene® F-C (Fuel Oil Additive) 32
Santolene® J (Fuel Oil Additive) 32
Santolite® MHP Resins ..... 26 and 47
Santolite® MS (80% Industrial Resin) ..... 26 and 47
Santolube® 70 (Oil Additive) 32
Santolube® 314 Oil Additive 32
Santolube® 392 (Oil Additive) 32
Santolube® 393 (Oil Additive) Zinc Dialkyl Dithiophosphate 32
Santolube® 394-C (Oil Additive) 32
Santolube® 395-X (Oil Additive) 32
Santolube® 845 (Oil Additive) 32
Santolube® 875 (Oil Additive) 32
Santomask® II Odor-Masking Agent 63
Santomerse® No. 1-B 66
Santomerse® 85-B 66
Santomerse® ME-B Slurry 66
Santonox® Antioxidant 26
Santonox® R Antioxidant 50
Santophen® 1 Germicide 62
Santophen® 1 Solution 62
Santopoid® 22-RI—Gear Oil Additive 33
Santopoid® 23-RI—Gear Oil Additive 33
Santopoid® 33—Gear Oil Additive 33
Santopoid® 35—Gear Oil Additive 33
Santopoid® S—Gear Oil Additive 33
Santopour® C—Oil Additive 33
Santoquin® Antioxidant 61
Santosite®—Sodium Sulfite Anhydrous 65
Santosize® Paper Sizing Agent 65
Santotane® RR Basic Chrome Sulfate 65
Santovar® (Rubber Chemical) 58
Santowax® OMP (Organic Coolant Nuclear Reactors) 19
Santowhite® 54 (Rubber Chemical) 58
Santowhite® 54-S (Rubber Chemical) 58
Santowhite® Crystals (Rubber Chemical) 58
Santowhite® L (Rubber Chemical) 58
Santowhite® MK (Rubber Chemical) 58
Santowhite® Powder (Rubber Chemical) 59
Scripset® 100, 500 Series 65
Scriptite® Series Wet-Strength Resins 65
Sequestrants 17

0557575

TOWOLDMON0041309
WATER_PCB-00032355

Silent-Cor* Sound Deadening Board 12
Silica Aerogel for Industrial Applications (Santocel®) 47
Silica Aerogel for Thermal Insulation (Santocel®) 47
Silicon—Electronic Grade 13
Skydrol® 500-A (Fire Resistant Hydraulic Fluid for Jet Aircraft 18
Skydrol® 7000 (Fire Resistant Jet Hydraulic Fluid for Aircraft) 18
Slag, Calcium Silicate 19
Shawinigan Resins Products ..... 32 and 33
Sodium Acid Pyrophosphate 16
Sodium Alkyl Benzene Sulfonate—Biodegradable 53
Sodium Aluminum Phosphate (Levn-Lite*) 16
Sodium Benzoate, U.S.P. and Technical 17
Sodium Bisulfate (Nitre Cake) 18
Sodium Bisulfite Anhydrous 18
Sodium Cyclamate N.F. (Dietose®) 14
Sodium Chloride (Rock Salt) 18
Sodium Hexametaphosphate 29
Sodium Metabisulfite (Sodium Bisulfite Anhydrous) 18
Sodium meta-Nitrobenzene Sulfonate 25
Sodium Pentachlorophenate, Technical (Santobrite®) 49

SODIUM PHOSPHATES ..... 28 and 29

Sodium Salicylate, U.S.P. 24
Sodium Sulfite Anhydrous Technical 20
Sodium Sulfite Anhydrous (Santosite®) 65
Sodium Tripolyphosphate 29
Sopanox® (ortho-Tolyl Biguanide) 51
Soybean and Casein Adhesives 47
Spandex 13

Special Projects and Development (Monsanto Research Corporation) 20

Specialty Products ..... 59 to 66

SQ Phosphate* Sequestrant 29
Stabil-9® (Leavening Agent) 16
Stabilized Methyl Parathion 11
Sterox® AJ—AJ-100 66
Sterox® CD 67
Sterox® DF 67
Sterox® DJ 67
Sterox® NJ 67
Sterox® NM 67
Sterox® SK 67
Sterox® No. 6 67
Stop-Scald* Fruit Spray 12
Stymer® Copolymer Resins 66
Styrene Extruding and Calendering Material (Lustrex®) 43
Styrene Molding Compound (Lustrex®) 43
Styrene Monomer 23

Styrene Resins/Plastics ..... 43 and 44

Sulfonic Acids 25

Sulfasan® R (Rubber Chemical) 59

Sulfonamide Resins 47

5-Sulfosalicylic Acid, Technical 21

Sulfur-Containing Compounds ..... 25 and 26

Sulfur Dioxide, Liquid 20
Sulfuric Acid and Oleum 20

Sweetners 14

Surface Active Agents ..... 66 and 67

Sweetners, Non-Nutritive 16-17

Syton® AS-200, AS-240, AS-250 (Colloidal Silica) 60
Syton® C-30 and 200 (Colloidal Silica) 60
Syton® C-40 and 240 (Colloidal Silica) 60
Syton® C-50 and C-250 (Colloidal Silica) 61
Syron® DS, DS-40, DS-50 and DS-200, DS-240, DS-250 (Colloidal Silica) 61
Syton® P and P-200 (Colloidal Silica) 65
Syton® W-200, W-240, W-250 (Colloidal Silica) 61

T

2,4,5-T Amine Herbicide 10
2,4,5-T Butyl Ester Herbicide 10
2,4,5-T Low Volatile Ester Herbicide 11

Tanning Agents 65

TCC (3,4,4, Trichlorocarbanilide) 62
Tertiary-Butylamine 21
Tetrapotassium Pyrophosphate 28
Tetrapropenylsuccinic Anhydride (TPSA®) 18
Tetrasodium Pyrophosphate 29

Textile Chemicals ..... 65 and 66

Thalan® Phthalic Anhydride 56
Thenylpyramine Fumarate (Methapyrilene Fumarate) 24
Thenylpyramine Hydrochloride (Methapyriiene Hydrochloride) 24
Therminol® FR (Heat Transfer Liquid) 19
Thermo-Lath®—Waterproof Insulating Plasterbase Panels 12

Thickening Agents 66

Thiofide® MBTS Rubber Chemical 56
Thiuram® MBT Rubber Chemical 58
Thiurad® (Rubber Chemical) 57
Threshold Detectors (Monsanto Research Corp.) 20
Toluene 31
Toluenesulfonamide—para 25
Toluenesulfonic Acid 25
Toluenesulfonyl Chloride—para 25
TPSA® Tetrapropenylsuccinic Anhydride 21
Tributoxy Ethyl Phosphate (TBEP) 51
Tributyl Phosphate (TBP) 51
Tricalcium Phosphate 28
Tricresyl Phosphate 50
Triethylammonium Phosphate 27
Triphenyl Phosphate 51
Triphenyl Phosphite 31
Tripotassium Phosphate 28
Trisodium Phosphate, Anhydrous 29
Trisodium Phosphate, Crystalline 29
Tri-Una-Sol® Fertilizer Solution 8

U

Ultron® Polyvinyl Chloride (Flexible Film & Sheeting) 46
Urea, Feed Grade Coated Microprills 8
Urea, Fertilizer Grade Coated Pellets 9
Urea, Fertilizer Grade Uncoated Pellets 9
Urea, Industrial Grade Uncoated Pellets 49
Urea and Melamine Resins 59

V

Vanadium Sulfuric Acid Catalyst 62
Vanillin Monsanto 16
Vegadex® Herbicide 10
Vinyl Acetate Monomer 23
Vinyl Building Panels (Lustra-Span®) 12
Vinyl Butyral (Saflex®) 45
Vinyl Chloride Extruding & Calendering Material (Opalon®) 45
Vinyl Chloride (Flexible Film & Sheeting) Ultron® 46
Vinyl Chloride Molding Compound (Opalon®) 45
Vinyl Chloride Monomer 24
Vinyl Gutters and Downspouts 12

VINYL RESINS/PLASTICS ..... 45 and 46

Vinyl Siding 12
Vinyl Styrene (Stymer®) 66
Vyram® Rigid Vinyl Compounds 46
Vyset® 69 Resins 64
Vuepak® Cellulose Acetate Sheet 56

W

Wallop* Herbicide—Insecticide 11

Wood Preservative (Monsanto® Penta) 49

Weed Killers 10

X

X-Ray Units (Monsanto Research Corp.) 20
Xylenes, Mixed 31

Z

Zinc Dialkyl Dithiophosphate (Santolube® 393) 32
Zinc Oxide, Technical 65

MONSANTO, Marketing Services Dept., 800 No. Lindbergh Blvd., St. Louis, Mo. 63166

0557576

TOWOLDMON0041310
WATER_PCB-00032356

FUNCTIONAL FLUIDS: AIRBORNE, INDUSTRIAL, SPECIALTY

AIRBORNE AND SPECIALTY

COOLANOL® 45 DIELECTRIC COOLANT FOR ELECTRONIC EQUIPMENT

See Page M-50/13

OS-45® TYPE III HIGH TEMPERATURE HYDRAULIC FLUID FOR AIRCRAFT

See Page M-50/14

OS-45® TYPE IV HIGH TEMPERATURE HYDRAULIC FLUID FOR AIRCRAFT

See Page M-50/14

SKYDROL® 500-A FIRE RESISTANT HYDRAULIC FLUID FOR JET AIRCRAFT

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 HYDRAULIC FLUID FOR AIRCRAFT

ORGANIC DIVISION—LITERATURE AVAILABLE

TYPICAL ANALYSIS: Cloud point below 0°F.; moisture 0.25% max.; neutralization number 0.2 max.; Sp. Gr. 1.090 to 1.086 at 25°/25°C.; pour point −70°F. or lower.

PROPERTIES: A clear, green fire-resistant hydraulic fluid with outstanding lubricity, stability, non-corrosiveness, excellent viscosity-temperature characteristics, and 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.—42 SSU; moisture—0.15% max.; neutralization number (acid)—0.15 max.; sp. gr. at 25°/25°C.—1.340-1.360.

PROPERTIES: A clear blue, mobile straight synthetic fire resistant air compressor lubricant with excellent lubricity.

USES: A fire and explosion resistant lubricant for air compressors, such as those used in air separation plants, plant air systems, ammonia synthesis plants, gas transmission booster stations and other type processing plants.

SHIPPING INFORMATION: Chemicals NOIBN. 55-gal. steel drums; 5-gal. cans, tank cars, tank trucks.

PYDRAUL® F-9 HYDRAULIC FLUID

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: Viscosity at 100°F.—245 SSU, 210°F.—45 SSU; moisture—0.20% max.; neutralization number (acid)—0.30 max.; sp. gr. at 25°/25°C.—1.270-1.300.

PROPERTIES: A cloudy blue 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, tank cars, tank trucks.

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)—0.25 max.; sp. gr. at 25°/25°C.—1.088-1.091.

PROPERTIES: A cloudy blue liquid, straight synthetic fire resistant hydraulic fluid with excellent lubricating and pumping characteristics.

USES: A fire resistant hydraulic fluid in systems requiring extremely low viscosity.

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

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.; sp. gr. at 25°/25°C.—1.119-1.135.

PROPERTIES: A cloudy blue liquid, straight synthetic fire resistant hydraulic fluid of low viscosity with excellent lubricity and low temperature pumping characteristics.

USES: Fire resistant hydraulic fluid in equipment which operates out of doors at low temperatures part 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, tank cars, tank trucks.

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)—0.30 max.; sp. gr. at 25°/25°C.—1.340-1.370.

PROPERTIES: A cloudy blue liquid, straight synthetic fire resistant hydraulic fluid of high viscosity with excellent lubricity and pumping characteristics.

USES: A fire resistant hydraulic fluid in equipment requiring a high viscosity medium, such as large forging presses, extrusion presses and some die-casting machines.

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

PYDRAUL® A-200 HYDRAULIC FLUID

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: Viscosity at 100°F.—230 SSU, 210°F.—41.9 SSU; moisture—0.05% max.; neutralization number (acid)—0.80-1.10 max.; Sp. Gr. at 25°/25°C.—1.415-1.430.

PROPERTIES: A cloudy blue liquid, straight synthetic, fire-resistant hydraulic fluid with excellent lubricity; non-corrosive, extremely stable to both heat and air; is designed to be permanent; fluid spilled and leaked can be easily reclaimed by filtration; does not thicken with use; resists "breakdown" even under extreme conditions; passes ASTM-D-665-A rust test with perfect score; A-200 is shear stable and undergoes no loss of viscosity after years of severe use.

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; 5-gal. cans, tank cars, tank trucks.

0557577

TOWOLDMON0041311
WATER_PCB-00032357

PYDRAUL® 312 HYDRAULIC FLUID

INORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid

TYPICAL ANALYSIS: Viscosity at 100° F. — 312 SSU, 210° F. — 50 SSU; moisture — 0.10% max.; neutralization number (acid) — 0.30 max.; Sp. Gr. at 25°/25° C. — 1.080-1.140.

PROPERTIES: A blue green liquid, synthetic fire-resistant hydraulic fluid with excellent lubricity and pumping characteristics; non-corrosive, extremely stable to both heat and air; recoverable by filtration; 312 is shear stable and undergoes no appreciable change in viscosity after years of service.

USES: A high performance, low cost fire-resistant fluid for die-casting machines, hydraulic presses, automatic welding machines, injection molding equipment and similar applications requiring a medium viscosity fluid.

SHIPPING INFORMATION: Hydraulic system fluids other than petroleum. Tank cars, tank trucks, 55-gal. steel drums and 5-gal. cans.

THERMINOL® FR — HEAT TRANSFER LIQUIDS

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

PROPERTIES: Clear, colorless liquids with high boiling points (above 600°F.), thermally and oxidatively stable to 600°F. and extremely fire resistant.

USES: *Therminol* FR liquids are fire resistant heat transfer media produced to rigid specifications important to heat transfer.

There are four *Therminol* FR products: *Therminol* FR-0 with best properties for low temperature pumping; *Therminol* FR-1 with low temperature fluidity, excellent for processes requiring both heating and cooling; *Therminol* FR-2 with the optimum balance of properties for use in most common industrial heat transfer systems; *Therminol* FR-3 with highest boiling point for special processing equipment applications.

SHIPPING INFORMATION: Chemicals NOIBN, tank cars, tank trucks, 55-gal. steel drums and 5-gal cans.

SANTOWAX® OMP ORGANIC COOLANT FOR NUCLEAR REACTORS

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Solid

PROPERTIES: A high boiling thermal and radiation resistant heat transfer medium.

USES: Organic nuclear reactor coolant and high temperature industrial heat transfer medium.

SHIPPING INFORMATION: Chemicals NOIBN, tank cars, tank trucks, 55-gal. steel drums and 5-gal. cans.

HEAVY CHEMICALS

ALUMINUM CHLORIDE SOLUTION 32° Bé.

INORGANIC DIVISION

MOLECULAR WEIGHT: 266.7

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: Neutral salt, low in iron content; solutions have an acid reaction but contain no free acid. $AlCl_3 \cdot 6H_2O$, 30.3%; Al_2O_3, 10.6%; Fe, 0.005%.

USES: Carbonizing fine wool such as piece goods, raw stock or shoddy, resulting in an exceptionally white, lofty wool; carbonizing colored goods where it has very little stripping action; soap manufacture for treatment of glycerine lyes where chloride of alumina is more desirable than sulfate.

SHIPPING INFORMATION: Aluminum Chloride Liquid. Tank cars; tank trucks.

ALUMINUM SULFATE

See Page M-50/64

BATTERY ACID *Electrolyte.*

INORGANIC DIVISION

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: Practically colorless liquid; H_2SO_4 93.2% min.; iron 0.005% max.; nitrogen compounds (as HNO_3) 0.001% max.; Sp. Gr., −1.835.

USES: Electrolyte is sulfuric acid, especially adapted to the needs of the storage battery trade.

SHIPPING INFORMATION: Sulfuric Acid. "Corrosive" label required. Tank trucks and tank cars.

CARBON DIOXIDE

INORGANIC DIVISION

FORMULA: CO_2

MOLECULAR WEIGHT: 44.0

PROPERTIES: Marketed in liquid form which is colorless and odorless.

USES: As inert gas atmosphere, for fire extinguishers, in carbonated beverages, and for carbon dioxide blasting.

SHIPPING INFORMATION: Carbon Dioxide. Steel cylinders and tank cars.

CAUSTIC POTASH

INORGANIC DIVISION

FORMULA: KOH

MOLECULAR WEIGHT: 56.1

STANDARD FORM: 45% Solution.

GRADES: Available as both technical grade and low chloride grade.

USES: Due to the greater solubility of the salts of Caustic Potash permitting higher solids content in liquid formulations, Caustic Potash has use in formulating liquid soaps and detergents. In the manufacture of many Organic and Inorganic Potassium salts, petroleum refining, and in detergents.

SHIPPING INFORMATION: Caustic Potash, Liquid. 10,000, 8,000 and 4,000 gal. lined and coiled tank cars. Tank trucks also available.

MIXED ACID *Nitrating Acid*

INORGANIC DIVISION

STANDARD FORM: Liquid.

TYPICAL ANALYSIS:

	80-15	45-53
Nitric Acid (HNO_3)	80.0 %	45.0 %
Sulfuric Acid (H_2SO_4)	15.0 %	53.0 %
Oxides of Nitrogen (N_2O_4)	0.25%	0.25%

USES: Nitrating in the chemical industry, particularly in the manufacture of explosives and dyestuffs. Special mixtures can be furnished to meet individual requirements.

SHIPPING INFORMATION: Nitrating Acid. Corrosive liquid (white label required). 110-gal. drums; 75 and 50-ton tank cars.

MURIATIC ACID *Hydrochloric Acid†*

INORGANIC DIVISION—LITERATURE AVAILABLE

FORMULA: HCl

MOLECULAR WEIGHT: 36.47

STANDARD FORM: Liquid.

TYPICAL ANALYSIS: 18° Be., 27.9% HCL; 20° Be., 31.5% HCl; 22° Be., 35.2% HCl.

USES: Used extensively in the starch, glucose, gelatin, steel galvanizing, paper, leather and glass industries.

†HYDROCHLORIC ACID PLANTS. Complete plants offered by Engineering Sales Department to electrolyze by-product HCl and produce pure chlorine and hydrogen.

NITRIC ACID

INORGANIC DIVISION—LITERATURE AVAILABLE

FORMULA: HNO_3

MOLECULAR WEIGHT: 63.01

STANDARD FORM: 36° Be., 38° Be., 40° Be., and 42° Be.

TYPICAL ANALYSIS: % HNO_3: 36° Be., 52.3%; 38° Be., 56.5%; 40° Be., 61.4%; 42° Be., 67.2%; Strong acid 95-98%. Sp. Gr. will not vary more than .05° terms of Be.; H_2SO_4, 0.05% max.

USES: Manufacture of insecticides, dyestuffs, drugs, pharmaceuticals, explosives, photoengraving, nitrates and nitro products.

SHIPPING INFORMATION: Nitric Acid. Corrosive liquid (white label required). Tank trucks; 50-ton tank cars.

SLAG, CALCIUM SILICATE

INORGANIC DIVISION

STANDARD FORM: Granular solid.

PROPERTIES: CaO, 47.18%; SiO_2, 40.44%; Al_2O_3, 7.62%; Fe_2O_3, 0.20%; F, 2.62%; P, 0.55%; K_2O, 0.97%; NaO, 0.44%; MgO, 0.02%; Mn, 0.12%; SO_4, 0.59%; C, 0.10%.

USES: Constituent of glass mix.

SHIPPING INFORMATION: Slag, Bulk.

TOWOLDMON0041312
WATER_PCB-00032358

DODECYLANILINE *(Formerly Alkylaniline C-12)*

ORGANIC DIVISION—LITERATURE AVAILABLE

STANDARD FORM: Liquid.

GENERAL INFORMATION: Dark reddish brown liquid, darkens on age; infrared analysis shows 90-95% of the alkyl substitution is in the para position; the dodecyl substituent is present in a number of isomeric forms.

USES: Corrosion inhibitor, intermediate for synthesis of hydrocarbon soluble chemicals.

CONTAINERS: 375-lbs. net—55-gal. drums—bulk.

SHIPPING INFORMATION: Chemicals NOIBN.

ortho-NITROANILINE *Also known as ortho-aminonitro-benzene*

ORGANIC DIVISION

MOLECULAR WEIGHT: 138.12

STANDARD FORM: Flakes.

SPECIFICATIONS: Orange flakes; crystallizing point 69.7°C. min.

PROPERTIES: Tends to form lumps on standing. Milling to desired fineness just before use is recommended. Addition of 0.5% tricalcium phosphate reduces the caking tendency.

USES: Manufacture of lakes and toners (dyes) such as ONA Black, ONA Orange and Hansa Yellow 5G; synthesis of coccidiostats, photographic anti-fogging agents and benzotriazoles (a rust inhibitor patented by Proctor and Gamble). CAUTION: This product is toxic. Avoid skin contact and breathing its dust.

SHIPPING INFORMATION: Dye Intermediate NOIBN "Poison" label required. 175-lb. fiber drums.

para-NITROANILINE

ORGANIC DIVISION—LITERATURE AVAILABLE

MOLECULAR WEIGHT: 138.12

SPECIFICATIONS: Appearance, yellow to amber crystals; Ash 0.2% max.; Color of HCl solution, NPA, No. 4 max.; Inorganic Chlorides, as Cl, 0.020% max.; Melting Point 147.9°C. min.

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

CONTAINERS: 350-lb. fiber drums.

SHIPPING INFORMATION: para-Nitroaniline (Dye Intermediate NOIBN).

ortho-PHENETIDINE

Also known as ortho-aminophenylethyl 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.; and to incl. 232.3° ± 0.2°C.

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

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

para-PHENETIDINE

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

ORGANIC DIVISION

MOLECULAR WEIGHT: 137.18

STANDARD FORM: Liquid.

SPECIFICATIONS: Light yellow liquid; crystallizing point 4.2°C. min.; distillation range: first drop 248.3°C. min.; 95% (1-96 ml) 2.0°C. max.; and to incl. 250.0 ± 0.2°C.

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. 480-lb. steel drums.

FLAVORINGS

CAFFEINE ANHYDROUS U.S.P.

See Page M-50/16

ETHAVAN® *Ethylvanillin.*

See Page M-50/16

METHYL SALICYLATE U.S.P.

See Page M-50/16

SACCHARIN (CALCIUM AND SODIUM) U.S.P.

See Page M-50/16

VANILLIN MONSANTO* *Vanillin U.S.P.*

See Page M-50/16

HALOGEN-CONTAINING COMPOUNDS (MISC.)

ACL® SANTICIZER AND BLEACHING COMPOUND

See Page M-50/67

AROCLOR® POLYCHLORINATED POLYPHENYLS

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.

GENERAL INFORMATION: *Aroclor* liquids 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.

USES: *Aroclor* liquids are used as dielectrics for condensers or capacitors and transformers. They are used to impregnate carbon resistors, and when combined with other plastic materials, they are excellent sealers or impregnating agents for a variety of electrical apparatus. *Aroclor* compounds also find use as liquid thermostat fluids; vacuum diffusion pump fluids; swelling agents for automotive transmission seals; and, as additives and base stocks for specialty lubricants, oil and greases.

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

MOLECULAR WEIGHT: 126.58

STANDARD FORM: Liquid.

SPECIFICATIONS: Clear, colorless liquid; Sp. Gr. 1.104-1.110 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; germicides; rubber accelerators; gasoline gum inhibitors; benzyl benzoate; and pharmaceuticals.

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

BENZYL CHLORIDE, *inhibited with 0.25% triethylamine*

ORGANIC DIVISION—LITERATURE AVAILABLE

SPECIFICATIONS: Same as for preceding product.

CONTAINERS: 475-lb. lacquer-lined drums.

CHLORAMINE-T

See Page M-50/61

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% (1-91 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 INFORMATION: ortho-Dichlorobenzol. 55-gal., 18-gauge black iron drums, bulk.

TOWOLDMON0041313
WATER_PCB-00032359