

What Every Chemical Technologist Wants to Know...

Resins

Compiled by Michael and Irene Ash

What Every Chemical Technologist Wants to Know About...

Volume V

Resins

**Compiled by
Michael and Irene Ash**

Edward Arnold

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Michael and Irene Ash

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PREFACE

This reference book is the fifth volume in the set of books entitled WHAT EVERY CHEMICAL TECHNOLOGIST WANTS TO KNOW . . . SERIES. This compendium serves a unique function for those involved in the chemical industry—it provides the necessary information for making the decision as to which trademark chemical product is most suitable for a particular application.

The chemicals included in this fifth book of the series are resins, however, complete cross-referencing is provided for the multiple functions or classification of all the chemicals.

The first section which is the major portion of each volume contains the most common generic name of the chemicals as the main entry. All these generic entries are in alphabetical order. Synonyms for these chemicals are then listed. The CTFA name appears alongside the appropriate generic name. The structural and/or molecular formula of the chemical is listed whenever possible. The generic chemical is sold under various tradenames and these are listed here in alphabetical order for ease of reference along with their manufacturer in parentheses. *Modifications/Specialty Grades* lists those tradenames that contain or omit additives so that they are used for a variety of specialty purposes. The *Category* subheading classifies the resin by thermoplastic and/or thermoset types. The *Processing* category lists the tradenames that have been formulated to be used for specific or generalized plastics processing. Because of differences in form, activity, etc., individual tradenames of the generic chemical are used in particular applications more frequently. These are delineated in the *Applications* section. The differences in properties, toxicity/handling, storage/handling, and standard packaging are specified in the subsequent sections wherever distinguishing characteristics are known.

The second section of the volume TRADENAME PRODUCTS AND GENERIC EQUIVALENTS helps the user who only knows a chemical by one tradename to locate its main entry in section 1. The user can look up this tradename in this section of the book and be referred to the appropriate, main-entry, generic chemical name.

The third section GENERIC CHEMICAL SYNONYMS AND CROSS REFERENCES provides a way of locating the main entries by knowing only one of the synonyms. If the generic chemical is not in the volume, it will refer you to the volume in which it is contained.

The fourth section TRADENAME PRODUCT MANUFACTURERS lists the full addresses of the companies that manufacture or distribute the tradename products found in the first section.

The following is a list of the six volumes that comprise this series:

Volume I	Emulsifiers and Wetting Agents
Volume II	Dispersants, Solvents and Solubilizers
Volume III	Plasticizers, Stabilizers and Thickeners
Volume IV	Conditioners, Emollients and Lubricants
Volume V	Resins
Volume VI	Polymers and Plastics

This series has been made possible through long hours of research and compilation and the dedication and tireless efforts of Roberta Dakan who helped make this distinctive series possible. Our appreciation is extended to all the chemical manufacturers and distributors who supplied the technical information.

M. and I. Ash

NOTE

The information contained in this series is accurate to the best of our knowledge; however, no liability will be assumed by the publisher for the correctness or comprehensiveness of such information. The determination of the suitability of any of the products for prospective use is the responsibility of the user. It is herewith recommended that those who plan to use any of the products referenced seek the manufacturer's instructions for the handling of that particular chemical.

OTHER BOOKS BY MICHAEL AND IRENE ASH

A Formulary of Paints and Other Coatings, Volumes I and II
A Formulary of Detergents and Other Cleaning Agents
A Formulary of Adhesives and Sealants
A Formulary of Cosmetic Preparations
The Thesaurus of Chemical Products, Volumes I and II
Encyclopedia of Industrial Chemical Additives, Volumes I-IV
Encyclopedia of Surfactants, Volumes I-IV
Encyclopedia of Plastics, Polymers and Resins, Volumes I-IV
What Every Chemical Technologist Wants to Know About. . .
 Volume I—Emulsifiers and Wetting Agents
 Volume II—Dispersants, Solvents and Solubilizers
 Volume III—Plasticizers, Stabilizers and Thickeners
 Volume IV—Conditioners, Emollients, and Lubricants
Chemical Products Desk Reference

ABBREVIATIONS

@	.....	at
anhyd.	.....	anhydrous
APHA	.....	American Public Health Association
approx.	.....	approximately
aq.	.....	aqueous
ASTM	.....	American Society for Testing and Materials
avg.	.....	average
B.P.	.....	boiling point
Btu	.....	British thermal unit
C	.....	degrees Centigrade
CAS	.....	Chemical Abstracts Service
cc	.....	cubic centimeter(s)
CC	.....	closed cup
cm	.....	centimeter(s)
cm ³	.....	cubic centimeter(s)
COC	.....	Cleveland Open Cup
compd.	.....	compound, compounded
conc.	.....	concentrated, concentration
cP, cps	.....	centipoise
cs, cSt	.....	centistokes
CTFA	.....	Cosmetic, Toiletry and Fragrance Association
DEA	.....	diethanolamine
disp.	.....	dispersible, dispersion
dist	.....	distilled
DOT	.....	Department of Transportation
DW	.....	distilled water
EO	.....	ethylene oxide
equiv.	.....	equivalent
F	.....	degrees Fahrenheit
F.P.	.....	freezing point
FDA	.....	Food and Drug Administration
ft ³	.....	cubic foot, cubic feet
g	.....	gram(s)
gal	.....	gallon(s)
HLB	.....	hydrophile-lipophile balance
insol.	.....	insoluble
IPA	.....	isopropyl alcohol
kg	.....	kilogram(s)
l, L	.....	liter(s)
lb	.....	pound(s)
M.P.	.....	melting point
M.W.	.....	molecular weight
max	.....	maximum
MEA	.....	monoethanolamine
MEK	.....	methyl ethyl ketone
mfg.	.....	manufacture
MIBK	.....	methyl isobutyl ketone
min	.....	minute(s)
min.	.....	mineral, minimum
MIPA	.....	monoisopropanolamine

misc.	miscible
ml	milliliter(s)
mm	millimeter(s)
NF	National Formulary
no.	number
o/w	oil-in-water
OC	open crucible
PEG	polyethylene glycol
pH	hydrogen-ion concentration
pkgs	packages
PMCC	Pensky Marten closed cup
POE	polyoxyethylene, polyoxyethylated
POP	polyoxypropylene
PPG	polypropylene glycol
pt.	point
R&B	Ring & Ball
RD	Recognized Disclosure
ref.	refractive
rpm	revolutions per minute
R.T.	room temperature
s	second(s)
sol.	soluble, solubility
sol'n.	solution
sp.gr.	specific gravity
SS	stainless steel
std.	standard
SUS	Saybolt Universal seconds
TCC	Taggart closed cup
TEA	triethanolamine
tech.	technical
temp.	temperature
theoret.	theoretical
TLV	threshold limit value
TOC	Taggart open cup
UL	Underwriter's Laboratory
USP	United States Pharmacopoeia
uv, UV	ultraviolet
veg	vegetable
visc.	viscosity, viscous
w/o	water-in-oil
wt	weight
≈	approximately equal to
<	less than
>	greater than
≤	less than or equal to
≥	greater than or equal to

TABLE OF CONTENTS

Resins	1
Tradename Products and Generic Equivalents	358
Generic Chemical Synonyms and Cross References	372
Tradename Product Manufacturers	375

ABS resin

SYNONYMS:

Acrylonitrile-butadiene-styrene resin

TRADENAME EQUIVALENTS:

ABS 124ESG, 124ESGE, 125M, 224M, 236F, 236MA, 236R, 301K, 323MA, 400P, 410ESG, 414MA, 420A, 424ESM, 500FR-1, 504ESG, 506ESG, 510EC, 522ESM, 550ES, 606ED, 707H, 707K, 808K, 910K [Mobil]

Abson 010, 042, 110, 120, 130, 135, 140, 161, 171 [Mobay]

Bapolan 8445, 8635, 8640 [Bamberger]

Cycolac AR, CG, CGA, CTB, DFA-R, DH, EP-3510, EPB-3570, ETS-3540, FBK, GSE, GSM, GT, HM, KGA, KJB, KJM, KJT, KJU, KJW, L, LS, LXB, SF, T, TA, X-11, X-15, X-17, X-37, Z36, Z48, Z86, ZA2, ZA4, ZA7, ZB2, ZB6, ZC7 [Borg-Warner]

Dow ABS 213, 350, 500, PG912, PG940 Resin [Dow]

Lucky ABS HF-350, HF-380, HI-100, HI-121, HI-151, HR-420, HR-450, MP-211, RS-600, SH-610 [Standard Polymers]

Lustran ABS 248, 252, 448, 452, 456, 545, 648, 743, 750-10802, 752, 780-10802, 782-10846, 860, 865, 1152, -HR850, -HR851, PG-298, PG-299, PG-300, FR ABS911, FR ABS914HM, FR ABS921UV, Ultra ABS HX, MX [Monsanto]

Magnum ABS 213, 341, 343, 545, 941, 4500UV, 9010, 9020, 9030, 9408, 9450P, CLR95, FG960 [Dow]

Novodur HGV, P2T, P2T-AT, PH-AT, PHE, PK, PK-AT, PKT, PL-AT, PLT-AT, PM, PM3C, PM5C, PM-AT, PME, PMT, PMT-AT, PTE, PX [Bayer AG]

PDX-84357 [LNP]

Carbon-Reinforced:

Stat-Kon AC-1003 (15% carbon fiber) [LNP]

Glass-Reinforced:

ABS-G1FG-2 (20% glass) [Washington Penn]

ABS resin (cont'd.)

AS-10GF (10% glass fiber), -20GF (20% glass fiber), -30GF (30% glass fiber), -40GF (40% glass fiber) [Compounding Technology]

Cycolac KGA [Borg-Warner]

Novodur PHGV (17% glass fiber), PHGV-AT (17% glass fiber) [Bayer AG]

RTP 601 (10% glass fiber), 603 (20% glass fiber), 605 (30% glass fiber), 607 (40% glass fiber) [Fiberite]

Thermocomp AF-1004 (20% glass fiber), AF-1006 (30% glass fiber), AF-1008 (40% glass fiber) [LNP]

ABS-stainless steel composite:

PDX-84357 [LNP]

MODIFICATIONS/SPECIALTY GRADES:

Flame Retardant:

ABS 500 FR-1; Abson 010, 042; Cycolac FBK, KGA, KJB, KJM, KJT, KJU, KJW, Z86, ZC7; Lustran ABS 860, 865, FR ABS911, FR ABS914HM, FR ABS921UV; Magnum ABS 4500UV; PDX-84357

Heat Resistant:

Bapolan 8445; Cycolac X-11, X-15, X-17, X-37, Z36, Z48; Lucky ABS HR-420, HR-450; Lustran ABS-HR850, HR851; Magnum ABS 4500UV, ABS 9048

High Flow:

ABS 125M, 707H; Abson 135; Cycolac DFA-R, EP-3510, FBK, GT, T, TA; Dow ABS 213; Lucky ABS HF-350, HF-380; Novodur PL-AT, PLT-AT

High Impact:

ABS 236F, 323MA, 301K, 420A, 500FR-1, 504ESG, 506ESG, 522ESM, 550ES, 606ED, 808K; Abson 135, 161, 171; Bapolan 8445, 8635, 8640; Cycolac CG, CGA, EP-3510, ETS-3540, GSE, GSM, HM, L, LS, LXB, T, ZA2, ZB2, ZB6; Dow ABS PG940 Resin; Lucky ABS HI-100, HI-121, HI-151, MP-211, SH-610; Lustran ABS 448, 648, 743, 750-10802, 752, 780-10802, 782-10846, 115, PG-298, PG-300, Ultra ABS HX; Magnum ABS 545, 941, 4500UV, 9020, 9030

High Gloss:

ABS 414MA, 504ESG, 506ESG, 808K; Abson 042, 110, 120, 130, 135, 140, 161; Cycolac GSE, GT, LS, T; Dow ABS 350 Resin; Lucky ABS HI-151; Lustran ABS 248, 252, 448, 452, 545, 648, 752, -HR850, -HR851, Ultra ABS HX, MX; Magnum ABS 941, 9010, 9020, 9030

Semigloss:

ABS 124ESGE, 400P, 410ESG, 707K

Medium Gloss:

Lustran ABS 1152

Satin Gloss:

Abson 010

Low Gloss:

ABS 224M; Cycolac CG, CGA, ZA4, ZA7, ZB2; Magnum ABS 213, 341, 343, 545

Matte Finish:

ABS 420A, 424ESM, 522ESM; Dow ABS 213; Lustran ABS 456

Plateable Grade:

ABS 910K; Cycolac EP-3510, EPB-3570, ETS-3540; Lucky ABS MP-211; Lustran ABS PG-298, PG-299, PG-300; Magnum ABS 9450P; Novodur PM3C, PM5C

CATEGORY:

Thermoplastic resin

PROCESSING:

Extrusion:

ABS 124ESGE, 236MA, 410ESG, 420A, 424ESM, 504ESG, 506ESG, 510EC, 522ESM, 550ES, 606ED; Abson 171; Bapolan 8635; Cycolac CG, CGA, GSE, LS, SF, Z-36; Dow ABS 213, 350, 500, PG912, PG940 Resin; Lucky ABS HI-100, HI-121, RS-600, SH-610; Lustran ABS 252, 452, 456, 545, 752, 780-10802, 782-10846, 860, 865, 1152; Magnum ABS FG960; Novodur HGV, PHE, PK, PME, PTE

Injection Molding:

ABS 124ESG, 125M, 224M, 236F, 236R, 301K, 323MA, 400P, 414MA, 500FR-1, 707H, 707K, 808K; ABS-G1FG-2; Abson 010, 042, 110, 120, 130, 135, 140, 161; AS-10GF, -20GF, -30GF, -40GF; Bapolan 8445, 8635, 8640; Cycolac AR, CTB, DFA-R, DH, FBK, GSM, GT, HM, KGA, KJB, KJM, KJT, KJU, KJW, L, LXB, T, TA, X-11, X-15, X-17, X-37, Z48, Z86, ZA2, ZA4, ZA7, , ZB6, ZC7; Dow ABS 213, 350, 500, PG912, PG940 Resin; Lucky ABS HF-350, HF-380, HI-100, HI-121, HI-151, HR-420, HR-450; Lustran ABS 248, 448, 648, 743, 750-10802, -HR850, -HR851, FR ABS911, FR ABS914HM, FR ABS921UV, Ultra ABS HX, MX; Magnum ABS 213, 341, 343, 545, 941, 4500UV, 9010, 9020, 9030, 9408, CLR95; Novodur P2T, P2T-AT, PH-AT, PHGV, PHGV-AT, PK, PK-AT, PKT, PL-AT, PLT-AT, PM, PM3C, PM5C, PM-AT, PMT, PMT-AT, PTE, PX; PDX-84357; RTP 601, 603, 605, 607; Stat-Kon AC-1003; Thermocomp AF-1004, AF-1006, AF-1008

Compression Molding:

Dow ABS 213, 350, 500, PG912, PG940 Resin

Structural Foam Processing:

Cycolac FBK, ZC7

Thermoforming:

Cycolac CGA; Lustran ABS 860

APPLICATIONS:

Automotive applications: (ABS 236MA, 236MA, 323MA, 424ESM, 500FR-1; ABS-G1FG-2; AS-10GF, -20GF, -30GF, -40GF; Cycolac ETS-3540, HM, X-15, X-17, ZA2, ZA4, ZA7; Dow ABS 213, 350, 500; Lucky ABS HI-121, SH-610; Lustran ABS-HR850, -HR851; Novodur Series, PMT; RTP 601, 603, 605, 607; Thermocomp AF-1004, AF-1006, AF-1008); ATV (ABS 522ESM); bumpers (Cycolac LXB); consoles (ABS 236MA, TA); exterior parts (ABS 910K; Cycolac AR, EP-3510, EPB-3570; Lustran ABS 252, 452, 752); heating/air conditioner ducts (Cycolac AR; Lucky ABS HR-420, HR-450; Lustran ABS-HR850, -HR851); instrument panels (ABS 414MA; Lucky ABS HR-420, HR-450; Lustran ABS 252,

ABS resin (cont'd.)

452, 456, 752, -HR850, -HR851); interior parts (ABS 236F; Cycolac AR, EP-3510, TA, X-11, Z48; Lustran ABS-HR850, -HR851); light housings (Lustran ABS-HR850, -HR851); motorcycle components (Lustran ABS 252, 452, 752); RV exteriors (Lustran ABS 252, 452, 752); RV interiors (ABS 420A); snowmobile components (Abson 171; Cycolac L; Lustran ABS 252, 452, 752)

Aviation industry: (ABS 500FR-1); avionics housings (PDX-84357)

Consumer products: (Lucky ABS HF-350, HF-380, HI-121, HI-151, HR-420, HR-450); carrying cases (ABS 224M); cosmetic cases (Cycolac EP-3510; Lucky ABS HI-151); furniture (ABS 500FR-1; Cycolac DFA-R, T; Lucky ABS HF-350, HF-380, HI-121; Lustran ABS 456; Novodur Series); hardware (Cycolac DFA-R); housewares (ABS 707K; Cycolac DFA-R; Lustran ABS 248); lawn and garden equipment (ABS 707H; Cycolac GSM; Lustran ABS 448, 648, 743; Lustran Ultra ABS HX, MX); luggage (ABS 424ESM, 522ESM; Dow ABS 213, 350, 500; Lucky ABS HI-121, SH-610; Lustran ABS 252, 452, 456, 752); musical instruments (Lucky ABS HF-350, HF-380, HI-121); photographic equipment (Cycolac X-37; Lustran ABS 248; Novodur Series; Thermocomp AF-1004, AF-1006, AF-1008); plumbing fixtures (Cycolac EPB-3570; Lustran ABS 456); recreational equipment (ABS 424ESM, 504ESG, 506ESG, 707K; Lustran ABS 252, 452, 752; Novodur Series); safety helmets (Abson 161; Cycolac L; Lucky ABS HI-100); shoes (Lucky ABS HI-100; Lustran ABS 448); smoke detector housings (ABS 500FR-1); sporting goods (ABS 224M, 808K; Cycolac GSM; Dow ABS 213, 350, 500; Lucky ABS HI-121; Lustran ABS 448, 648; Lustran Ultra ABS HX); toys (ABS 125M; Abson 135; Bapolan 8445; Cycolac CTB, DFA-R, T; Dow ABS 213, 350, 500; Lucky ABS HI-121; Lustran ABS 248, 448, 648; Lustran Ultra ABS HX, MX; Novodur Series); vacuum cleaner components (Cycolac GSM; Lustran ABS-HR850, -HR851)

Electrical/electronics industry: (Cycolac KJU, Z86; Novodur Series; PDX-84357); cassette housings (Cycolac CTB, L; Lustran Ultra ABS HX, MX); computers (Bapolan 8640; Cycolac KJB, KJU; Stat-Kon AC-1003); electrical appliances (Cycolac KJB, KJT); electrical components (Cycolac L; Stat-Kon AC-1003); electrical enclosures/packaging (Lustran ABS 865; Stat-Kon AC-1003); electronic instruments (Bapolan 8640); lighting equipment (Lucky ABS HI-121, HR-420, HR-450); power tools (Cycolac KJB, KJT, X-17, X-37; Lustran ABS 648, 743; Lustran Ultra ABS HX, MX); speaker cabinets (Lucky ABS HI-151); telecommunications (ABS 808K; Abson 135; Bapolan 8445, 8640; Cycolac FBK, GT, KGA, T, X-37, ZB2, ZB6, ZC7; Lucky ABS HF-350, HF-380, HI-151; Lustran ABS 448; Lustran Ultra ABS HX, MX); TV cabinets (Abson 010, 042, Z86; Lucky ABS HF-350, HF-380, HR-420, HR-450); TV components (Cycolac FBK, KJT)

Industrial applications: (Lucky ABS RS-600); appliances (AS-10GF, -20GF, -30GF, -40GF; Bapolan 8445, 8640; Cycolac DFA-R, EPB-3570; Cycolac FBK, L, X-17, X-37; Dow ABS 213, 350, 500; Lucky ABS HF-350, HF-380; Lucky ABS HI-121, HI-151; Lustran ABS 248, 448, 648, 743, -HR850, -HR851; Lustran Ultra ABS HX, MX; Novodur Series; Thermocomp AF-1004, AF-1006, AF-1008); appliance

housings (ABS 400P, 506ESG; Cycolac EP-3510, T; Lucky ABS HI-121); appliance parts (ABS 124ESGE, 236MA, 410ESG, 500FR-1, 707H, 808K; Abson 135; Cycolac EP-3510); business machines and office equipment (ABS 808K; Abson 010, 042; AS-10GF, -20GF, -30GF, -40GF; Bapolan 8445; Cycolac FBK, KJB, KJT, X-37; Lucky ABS HF-350, HF-380, HI-151; Lustran ABS 248, 448, 648, 865; Lustran Ultra ABS HX, MX; Novodur Series; PDX-84357; Thermocomp AF-1004, AF-1006, AF-1008); closures (ABS 125M); construction applications (AS-10GF, -20GF, -30GF, -40GF; Cycolac X-11); core laminates (ABS 550ES); fittings (Lucky ABS HI-100; Lustran ABS 750-10802); housings (ABS 506ESG, 707H, 707K; Abson 042; AS-10GF, -20GF, -30GF, -40GF; Bapolan 8635; Cycolac FBK, GSM, KJT, ZB2; Dow ABS 213, 350, 500; Lucky ABS HF-350, HF-380, HI-121, HI-151, HR-420, HR-450; Lustran ABS 648, 743, -HR850, -HR851; Lustran Ultra ABS HX, MX; PDX-84357); intricate moldings (ABS 125M; Cycolac EP-3510, TA); knobs (Lucky ABS MP-211); large parts (Cycolac CG, LS; Lucky ABS HF-350, HF-380); molded parts (ABS 124ESG, 125M; Lucky ABS HI-100); packaging/displays (Cycolac CTB; Lustran ABS 248); pipe (ABS 301K, 510EC, 606ED; Dow ABS 213, 350, 500, PG912, PG940; Lucky ABS HI-100, HI-121; Lustran ABS 750-10802, 780-10802, 782-10846; Magnum ABS FG960); profile and sheet (ABS 124ESGE, 410ESG, 504ESG, 506ESG, 522ESM, 550ES; Cycolac SF); refrigerator liners/parts (ABS 504ESG; Bapolan 8445; Cycolac CTB; Dow ABS 213, 350, 500; Lucky ABS HI-121, MP-211, RS-600; Lustran ABS 252, 452, 545, 752); sheet (Bapolan 8635; Lucky ABS HI-121, RS-600, SH-610; Lustran ABS 860); swimming pool valves (ABS 707H); textile applications (Novodur Series, HGV); thick sections (Cycolac L); thin sections (ABS 125M; Cycolac TA); tools (Cycolac FBK, GSM; Dow ABS 213, 350, 500; Lustran ABS 248, 448)

Marine equipment: (Cycolac EPB-3570); boats (Lucky ABS HI-121; Lustran ABS 252, 452, 752)

PROPERTIES:

Form:

Solid (ABS 124ESG, 124ESGE, 125M, 224M, 236F, 236MA, 236MA, 301K, 323MA, 400P, 410ESG, 414MA, 420A, 424ESM, 500FR-1, 504ESG, 506ESG, 510EC, 522ESM, 550ES, 606ED, 707H, 707K, 808K, 910K; Dow ABS 213, 350, 500, PG912, PG940)

Pellets (Cycolac FBK)

Color:

Transparent (Cycolac CTB; Magnum ABS CLR95)

Natural (ABS 124ESG, 124ESGE, 125M, 224M, 236F, 236MA, 236MA, 323MA, 400P, 410ESG, 414MA, 420A, 424ESM, 500FR-1, 504ESG, 506ESG, 522ESM, 550ES, 707H, 707K, 808K; Cycolac FBK, KJB, X-37; Lustran ABS 248, 448, 456, 648, 743, 860, -HR850, -HR851; Lustran FR ABS911, FR ABS914HM, FR ABS921UV; Lustran Ultra ABS HX, MX; Magnum ABS 213, 341, 343, 545, 941, 4500UV, 9010, 9020, 9030, 9408, 9450P, FG960; Novodur Series; RTP 601, 603, 605, 607)

ABS resin (cont'd.)

White (Lustran ABS 545)

Light (Dow ABS 213, 350, 500)

Colors (ABS 236F, 236MA, 400P; Lustran ABS 456, 545, 860, -HR850, -HR851)

Opaque, colorable (Abson 010, 042, 110, 120, 130, 135, 140, 161, 171)

Opaque colors (Novodur Series)

Gray (ABS 910K; Cypolac EP-3510, EPB-3570; Lustran ABS PG-298, PG-299, PG-300)

Black (ABS 301K, 510EC, 606ED; Lustran ABS 780-10802, 782-10846; RTP 601, 603, 605, 607)

GENERAL PROPERTIES:

Melt Flow:

0.9 g/10 min (Lustran ABS 865)

1.5–2.5 g/10 min (ABS-G1FG-2)

1.8 g/10 min (Lustran ABS 1152)

2.0 g/10 min (Bapolan 8635; Magnum ABS 941)

2.6 g/10 min (Magnum ABS FG960)

3.8 g/10 min (Magnum ABS 9408)

4.0 g/10 min (Bapolan 8445, 8640)

5.0 g/10 min (Magnum ABS 341, 9030)

5.5 g/10 min (Magnum ABS 213, 545, 9020)

6.0 g/10 min (Magnum ABS CLR95)

6.5 g/10 min (Magnum ABS 4500UV)

8.0 g/10 min (Magnum ABS 343, 9010, 9450P)

11 cc/s (Lucky ABS HI-100)

15 cc/s (Lucky ABS HI-121, HR-420, MP-211)

19 cc/s (Lucky ABS HI-151)

33 cc/s (Lucky ABS HR-450)

43 cc/s (Lucky ABS HF-380)

54 cc/s (Lucky ABS HF-350)

Sp.gr.: 0.97 (Cypolac SF)

1.02 (Cypolac CG, L, LS, LXB)

1.03 (ABS 506ESG, 808K; Cypolac CGA, HM; Lucky ABS HI-100; Lustran ABS 1152)

1.04 (ABS 504ESG, 522ESM, 606ED, 707H, 707K; Bapolan 8445; Cypolac DFA-R, GSE, GSM, T, TA, X-11, ZA2, ZA4; Lucky ABS HF-350, HI-121, MP-211; Lustran ABS 456, 648, 743, 752, 780-10802; Lustran Ultra ABS HX; Magnum ABS 545, 9010, 9020, 9030, 9450P)

1.05 (ABS 124ESG, 124ESGE, 125M, 224M, 236F, 236MA, 236R, 301K, 323MA, 400P, 410ESG, 414MA, 420A, 424ESM, 510EC, 550ES; Cypolac AR, DH, ETS-3540, X-11, X-15, X-17, ZA7; Dow ABS 213, 500; Lucky ABS HF-380, HI-151, HR-420, HR-450; Lustran ABS 448, 750-10802, 782-10846, -HR850; Lustran Ultra ABS MX; Magnum ABS 213, 341, 343, 941, 9408, FG960)

1.06 (ABS 910K; Cypolac EP-3510, EPB-3570, X-37, Z-36, Z48; Dow ABS 350;

ABS resin (cont' d.)

Lustran ABS 248, 452, -HR851, PG-298, PG-299, PG-300)

1.07 (Cycolac CTB; Lustran ABS 252)

1.09 (Magnum ABS CLR95)

1.10 (AS-10GF; Lustran ABS 545)

1.11 (RTP 601; Stat-Kon AC-1003)

1.18 (RTP 603)

1.20 (AS-20GF; Cycolac KJM, KJT, Z86; Lustran ABS 860, 865; Lustran FR ABS914HM, FR ABS921UV; Thermocomp AF-1004)

1.21 (Lustran FR ABS911; Magnum ABS 4500UV)

1.22 (Cycolac KJB, KJU, KJW)

1.28 (RTP 605; Thermocomp AF-1006)

1.29 (AS-30GF)

1.30 (PDX-84357)

1.33 (ABS 500FR-1)

1.38 (AS-40GF; RTP 607; Thermocomp AF-1008)

Sp. Vol.:

20.1 in.³/lb (Thermocomp AF-1008)

21.6 in.³/lb (Thermocomp AF-1006)

23.1 in.³/lb (Thermocomp AF-1004)

Density:

1.03 g/cc (Novodur PK, PK-AT)

1.04 g/cc (Novodur PM, PM3C, PM-AT, PME)

1.05 g/cc (Novodur PH-AT, PHE, PKT, PMT, PMT-AT, PX, X)

1.06 g/cc (Novodur P2T, P2T-AT, PM5C)

1.09 g/cc (Novodur HGV)

1.15 g/cc (Novodur PHGV)

1.16 g/cc (Novodur PHGV-AT)

1.17 g/cc (ABS-G1FG-2)

1.02 mg/m³ (Abson 161, 171)

1.04 mg/m³ (Abson 135)

1.06 mg/m³ (Abson 110)

1.17 mg/m³ (Abson 010)

1.22 mg/m³ (Abson 042)

43 lb/ft³ (bulk) (Magnum ABS 213, 341, 343, 545, 941, 4500UV, 9010, 9020, 9030, 9408, 9450P, CLR95, FG960)

Visc.:

3.9 kPa•s (450 F, apparent) (Lustran ABS 545)

4.14 kPa•s (232 C, apparent) (Lustran ABS 456)

4.48 kPa•s (232 C, apparent) (Lustran ABS 252, 452, 752)

7.24 kPa•s (190 C, apparent) (Lustran ABS 860)

75 poise (450 F, melt) (Magnum ABS 213)

90 poise (450 F, melt) (Magnum ABS 4500UV)

120 poise (450 F, melt) (Magnum ABS 343)