Handbook of Adhesive Chemical and Compounding Ingredients

Second Edition

Compiled by
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Synapse Information Resources, Inc.

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Preface

Adhesive manufacture represents an $30 billion a year global industry. The market for adhesive products spans a diverse range of industries including: electrical and electronic systems, packaging, consumer goods, medical and dental products, construction and building materials, industrial assemblies, paper, and transportation. The primary categories of adhesives are: hot-melt, pressure-sensitive, protein-based, radiation-curable, heat-sealing, heat-activated, rubber-based, thermoplastic, thermosetting, solventborne, and waterborne.

The ***Handbook of Adhesive Chemical And Compounding Ingredients***, now in its Second Edition, has been extensively updated and contains the most comprehensive coverage available on raw materials that are used in the manufacture of adhesives. This reference includes information on the following types of chemicals and materials: Accelerators; Adhesion promoters, Antiblocking agents; Antioxidants; Antimicrobials, Antisag agents, Antitack agents; Bases; Bleaches; Catalysts; Colloidal stabilizers; Crosslinking agents; Defoamers; Curing agents, Dispersants; Dyes; Extenders; Fillers; Film-formers, Flame retardants, Gloss aids, Hardeners, Humectants; Insolubilizers; Liquifiers; Pigments; Plasticizers; Polymers, Preservatives; Processing aids; Reinforcing agents, Resins, Rosins, Softeners; Solvents; Stabilizers, Tackifiers; Thickeners/Viscosity control agents; UV absorbers; Vulcanizing agents; Waxes, Waterproofing agents; Wetting agents.

The selection of raw materials for a specific adhesive product is a complex process that includes evaluation of essential factors such as: adhesive type, materials to be joined (e.g., texture of substrates), processing conditions, product requirements, expected usage, cost constraints, end-use environmental conditions (UV light, solvents, temperature) and regulatory constraints.

This reference is organized so that the reader can access the information on adhesive ingredients based on the trade name, chemical components, functions and application areas, manufacturer, CAS number, and EINECS/ELINCS number.

The book is divided into four parts and includes three indexes and a Glossary in the Appendix:

Part I— *Trade Name Reference* provides an alphabetical listing of approximately 7000 trade name chemicals and materials that are used in formulating adhesive products. Each entry includes the manufacturer's name; chemical/material description; its detailed functions and applications in all aspects of industry; physical properties, such as form, molecular weight, density, solubility, boiling point, cloud point, flash point, pH, freezing point, activity; toxicology, storage, precautions, etc.

Part II— *Chemical Component Cross-Reference* covers more than 2500 chemicals and materials that are contained in the trade name products profiled in Part I or generic chemicals that are not linked to trade names but are used in the formulation of adhesives. Each entry contains information including the following: CAS (Chemical Abstract Service), EINECS/ELINCS (European Inventory of Existing Commercial Chemical Substances/ European List of Notified Chemical Substances), and UN/DOT reference numbers, classification, definition, chemical synonyms, empirical and molecular formulas, properties, toxicology, precautions, storage, uses, use level, regulatory details, manufacturers and distributors. All chemical/material synonyms are cross-referenced back to the main entry. Entries, in this section, include a listing of the trade name products that are either equivalent to this chemical or contain it as one of its ingredients.

Part III— *Functional/Application Index* is a powerful tool for locating the trade names and chemicals based on their function and/or industrial application area. By searching for key functional words such as solvent, tackifier, waterproofing agent, etc., combined with a specific application area, such as hot-melt, construction, dental products, industrial assemblies, etc., the user is directed to the trade names and/or chemicals that have that specific functional/application attribute. The generic component names are distinguished from the trade names by boldfaced type.

Part IV— *Manufacturers Directory* contains detailed contact information for the more than 3600 worldwide manufacturers and their branches of trade name products and chemical components that are referenced in this handbook. Wherever possible, telephone, telefax, toll-free numbers, e-mail and Internet addresses, and complete mailing addresses are included for each manufacturer.

Appendix

CAS Number Index contains CAS number entries followed by a listing of their trade name product and chemical equivalents in alphabetical order. The chemical name is in boldfaced type.

EINECS/ELINCS Number Index contains EINECS/ELINCS number entries followed by a listing of its trade name product and generic chemical equivalents in alphabetical order. The chemical name is in boldfaced type.

US FDA Regulatory Number Index contains the trade names and chemicals that have been approved as adhesive ingredi-

ents for articles intended for use in packaging, transporting, or holding food. The chemical name is in boldfaced type.

Glossary contains definitions of terminology associated with adhesive chemicals and materials.

We are confident that those involved in any aspect of the adhesive industry will find this compendium an important addition to their reference library We are also pleased to provide this reference as an electronic product.

This reference is the culmination of many years of research, investigation of product sources acquired through personal contacts and correspondences with major chemical manufacturers worldwide, as well as toxicological databases, chemical reference books, trade magazines and journals.

M. & I. Ash

Abbreviations

abs.	absolute
ABS	acrylonitrile-butadiene-styrene
absorp.	absorption
ACGIH	American Conference of Governmental Industrial Hygienists
ACN	acrylonitrile
act.	active
ADI	acceptable daily intake (FAO/WHO)
ADR	adverse drug reactions
AEL	acceptable exposure limit
adsorp.	adsorption
agric.	agricultural
agrochem.	agrochemical
a.i.	active ingredient
AIHA	American Industrial Hygiene Association
alc.	alcohol
Am., Amer.	American
amts.	amounts
anhyd.	anhydrous
ANSI	American National Standards Institute
AOC	assimilable organic carbon
APHA	American Public Health Association
API	Active Pharmceutical Ingredients
applic(s).	application(s)
aq.	aqueous
AS	acrylonitrile-butadiene-styrene
ASA	acrylic-styrene-acrylonitrile
ASBC	Am. Society of Brewing Chemists
ASTM	American Society for Testing and Materials
ATH	alumina trihydrate
atm	atmosphere
at.wt.	atomic weight
autoignit.	autoignition
aux(s).	auxiliary, auxililaries
avail.	available
avg.	average
a.w.	atomic weight
BAC	biological activated carbon
BATF	Bureau of Alcohol, Tobacco, and Firearms (U.S.)
BDG	butyl diglycol
BDOC	biodegradable dissolved organic carbon
BfArM	Bundesinstitut für Arzneimittel und Medizinprodukte (Federal Institute for Drugs and Medical Devices, Germany)
BGA	Federal Republic of Germany Health Dept. certification
BgVV	Bundesinsititut für Gesundheitlichen Verbraucher-schutz und Veterinärmedizin (Federal Institute for Consumer Health Protection and Veterinary Medicine) (Germany)
BHA	butylated hydroxyanisole
BHT	butylated hydroxytoluene
biochem.	biochemical
biodeg.	biodegradable
bldg.	building
blk.	black
BMC	bulk molding compound
BOD	biochemical oxygen demand
BP	British Pharmacopeia
b.p.	boiling point
BR	butadiene rubbers, polybutadienes
B&R	Ball & Ring
br., brn.	brown
brnsh.	brownish
BS	British Standards
B/S	butadiene/styrene
BSI	British Standards Institute
BSS	British Standard Sieve
Btu	British thermal unit
B.U.	Brabender units (viscosity)
BVC	British Veterinary Codex
BVO	brominated vegetable oil
byprod.	byproduct(s)
C	degrees Centigrade
CAA	Clean Air Act
CAB	cellulose acetate butyrate
calcd.	calculated
cap.	capillary
CAS	Chemical Abstracts Service
CC	closed cup
cc	cubic centimeter(s)
CCFAC	Codex Committee on Food Additives and Contaminants
CCl_4	carbon tetrachloride
CD	completely denatured
CDA	completely denatured alcohol
CEL	corporate exposure limit
CERCLA	Comprehensive Environmental Response, Compensation, & Liability Act (U.S.)
CFC	chlorofluorocarbon
CFN	Council on Food & Nutrition (Am. Medical Assoc.)
CFR	Code of Federal Regulations (U.S.)
cfu	colony-forming units
cGMP	current good manufacturing practice (U.S. FDA)
ch.	Chapter
char.	characteristic, characterized
chel.	chelation
chem(s).	chemical(s)
CI	Color Index
CIIR	chlorobutyl rubber
CIR	Cosmetic Ingredient Review
cks	centistoke(s)
cl	clear
CL	ceiling concentration
cm	centimeter(s)
cm^3	cubic centimeter(s)
CMC	carboxymethylcellulose
CMC	critical Micelle concentration
c.m.p.	capillary melting point
CNS	central nervous system
CO	carbon monoxide
COC	Cleveland Open Cup
COD	chemical oxygen demand
coeff.	coefficient
COF	coefficient of friction
compat.	compatible
compd(s).	compound(s)
compr.	compression
conc(s).	concentrated, concentration
conduct.	Conductive, conductivity
const.	constant
contg.	containing
cosolv.	cosolvent
CP	Canadian Pharmacopeia
cp	centipoise(s)

CPE	chlorinated polyethylene
cps	centipoise(s)
CPVC	chlorinated polyvinyl chloride
CR	chloroprene rubber, polychloroprene
cryst.	crystalline, crystallization
cs	centistoke(s)
cSt	centistoke(s)
CTFA	Cosmetic, Toiletry and Fragrance Association
ctks	centistoke(s)
CWA	Clean Water Act
cwt	hundred weight
DAB	Deutsche. Arzneibuch (German Pharmacopoeia)
DAC	Deutscher Arneimittel Codex (German Pharmacopoeia Codex)
D&C	Drugs & Cosmetics
dc	direct current
DE	dextrose equivalent
DEA	diethanolamide, diethanolamine
dec.	decomposes
decomp.	decomposition
DEG	diethylene glycol
deliq.	deliquescent
dens.	density
deriv(s).	derivative(s)
descrip.	description
dg	decigram(s)
DI	deionized
diam.	diameter
dielec.	dielectric
dil.	dilute
DIN	Deutsches Institut fuer Normung (German Standards Organization)
disp.	dispersible, dispersion
dissip.	dissipation
dist.	distilled
distort.	distortion
distrib.	distributor
dk.	dark
DMF	dimethyl formamide
DMF	Drug Master Files
DO	dissolved oxygen
D.O.	dissolved oxygen
DOC	dissolved organic carbon
DOM	dissolved organic matter
DOP	dioctyl phthalate
DOT	Department of Transportation (U.S.)
DPG	diphenyl guanidine, dipropylene glycol
DSB	dry solids basis
DSI	Canadian Provisional Domestic Substance list
DTUL	deflection temperature under load
DVB	divinylbenzene
DW	distilled water, deionized water
DWV	drainage, waste and vent
eb, EB	electron beam
EC	European Community
EC50	environmental concentration, 50%
EDTA	ethylenediamine tetraacetic acid
EE	epoxy equivalent
EEC	European Economic Community
EED	environmental endocrine disrupter
EEW	epoxide equivalent weight
e.g.	for example
EGC	Epoxide Group Content
EINECS	European Inventory of Existing Commercial Chemical Substances
elec.	electrical
ELINCS	European List of Notified Chemical Substances
elong.	elongation
EMI	electromagnetic interference
EMS	electromagnetic shielding
ENB	5-ethylidene-2-norbornene
EO	ethylene oxide
EP	European Pharmacopoeia
EP	extreme pressure
EPA	Environmental Protection Agency (U.S.)
EPDM	ethylene-propylene-diene rubber, ethylene-propylene terpolymer
EPR	ethylene-propylene rubber
EPS	expandable polystyrene
equip.	equipment
equiv.	equivalent
ESCR	environmental stress crack resistance
ESD	electrostatic discharge
ESO	epoxidized soybean oil
ESP	electrostatic protection
esp.	especially
EU	European Union
Eur.Ph.	European Pharmacopeia
EVA	ethylene vinyl acetate
evap.	Evaporation
exc.	excellent
F	degrees Fahrenheit
FA	fatty acid
FAO	Food and Agriculture Organization (United Nations)
FAP	Food Additive Petition (U.S.)
FCC	Food Chemicals Codex
FCC	fluorochlorocarbon
FDA	Food and Drug Administration (U.S.)
FD&C	Foods, Drugs, and Cosmetics
FEMA	Flavor and Extract Manufacturers' Association (U.S.)
FEP	fluorinated ethylene propylene
FFA	free fatty acid
FFDCA	Federal Food, Drug, and Cosmetic Act
FG	food grade
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act (U.S. EPA)
FKM	fluoroelastomer
fl	fluid
flamm.	flammable, flammability
flex.	flexural
FNB	Food and Nutrition Board
f.p.	freezing point
FP	French Pharmacopoeia
FR	flame retardant
FR-ABS	flame retardant ABS
FRP	fiberglass-reinforced plastics
F-T	Fischer-Tropsch
ft	foot, feet
f.w.	formula weight
G	giga
g	gram(s)
gal	gallon(s)
g/d	gram/dyne
GFRP	glass fiber-reinforced plastic
G-H	Gardner-Holdt
GI	gastro-intestinal
glac.	glacial
GLP	good laboratory practice
GLY	glycine
GMP	good manufacturing practice
gpd	gallons per day
gpm	gallons per minute
gpt	gallons per ton
gr.	gravity
gran.	granules, granular
GRAS	generally regarded as safe
grn(sh).	green. greenish
GRP	glass-reinforced plastics, glass-reinforced polyester
GVS	Gardner varnish scale (color)
GWP	Global warming potential
h	hour(s)
HAF	high abrasion furnace carbon black
HALS	hindered amine light stabilizer
HAP	hazardous air pollutant

HAPS	hazardous air pollutants
HAP's	hazardous air pollutants
HB	horizontal burning
HC	hydrocarbon
HCFC	hydrochlorofluorocarbon
HCl	hydrochloride, hydrochloric acid
HDPE	high-density polyethylene
HDT	heat distortion (deflection) temp.
HFC	hydrofluorocarbon
Hg	mercury
HIPS	high-impact polystyrene
HLB	hydrophilic lipophilic balance
HMIS	Hazardous Material Identification System
hr	hour(s)
HTST	high temperature short-time pasteurization
HEUR	hydrophobically modified ethoxylate urethane
HVAC	heating, ventilation, air conditioning
HVP	hydrolyzed vegetable protein
hyd.	hydroxyl
hydrog.	hydrogenated
Hz	hertz
IARC	International Agency for Research on Cancer (United Nations)
i.b.p.	initial boiling point
IDLH	immediately dangerous to life and health
I&I	industrial and institutional
IIR	isobutylene-isoprene rubber
IM	intramuscular
immisc.	immiscible
IMP	inosine monophosphate
in.	inch(es)
Inc.	Incorporated
inc.	increases, increased
INCI	International Nomenclature Cosmetic Ingredient
incl.	including
incompat.	incompatible
incorp.	Incorporated, incorporation
indent.	indentation
ing.	ingestion
ingred(s).	ingredient(s)
inh.	inhalation
inj.	injection
inorg.	inorganic
INS	International Numbering System for Food Additives
insol.	insoluble
Int'l.	International
IOFI	International Organization of the Flavor Industry
IP	intraperitoneal
IPA	isopropyl alcohol
IPM	isopropyl myristate
IPP	isopropyl palmitate
IR	isoprene rubber (synthetic), polyisoprene
irreg.	irregular
IU	International Unit
IV	intravenous
J	joule
JCIC	Japanese Cosmetic Ingredients Codex
JCID	Japanese Cosmetic Ingredients Dictionary
JECFA	Joint Expert Committee on Food Additives
JP	Japanese Pharmacopoeia
JSCI	Japanese Standard of Cosmetic Ingredients
JSFA	Japan Standards for Food Additives
k	kilo
KB	Kauri-Butanol
kg	kilogram(s)
KTPP	potassium tripolyphosphate
KU	Krebs units
l	liter(s)
lb	pound(s)
LC50	lethal concentration 50%
LCLo	lethal concentration low
LD0	lethal dose 0%
LD50	lethal dose 50%
LDLo	lowest published lethal dose
LDPE	low-density polyethylene
LED	light-emitting diode
lel	lower explosive level
lg.	large
liq.	liquid
LLDPE	linear low-density polyethylene
LMDPE	linear medium-density polyethylene
LOEL	lowest observed effect level
lt.	light
Ltd.	Limited
LVP	low vapor pressure
M	mega
M	mole
m	milli
m	meter(s)
m-	meta
manuf.	manufacturer
max.	maximum
mbar	millibar
MCF	methyl chloroform
MCL	maximum contaminant level
MCT	medium chain triglycerides
MD	machine direction, mold direction
MEA	monoethanolamine, monoethanolamide
mech.	mechanial
med.	medium
MEK	methyl ethyl ketone
mfg.	manufacture
mg	milligram(s)
mgd	million gallons/day
MIBK	methyl isobutyl ketone
microcryst.	microcrystalline
microgran.	microgranules, microgranular
MID	Meat Inspection Division (USDA)
MIL	Military Specifications
mil	0.001 inch
min	minute(s)
min.	mineral
min.	minimum
MIPA	monoisopropanolamine, monoisopropanolamide
misc.	miscible, miscellaneous
MITI	Japanese Inventory of Chemical Substances (list)
mixt(s).	mixture(s)
ml	milliliter(s)
MLD	minimum lethal dose
mm	millimeter(s)
MMAP	modified mixed aniline point
MMW-HDPE	medium molecular weight high density polyethylene
mN	millinewton(s)
mo, mos	month(s)
mod.	moderately
mod.	modulus
monocl.	monoclinic
m.p.	melting point
mPa·s	millipascal-second(s)
mppcf	million particles per cubic foot
MRL	maximum residual limits
MSDS	Material Safety Data Sheet
MT	medium thermal
mus	mouse
MVTR	moisture vapor transmission rate
m.w.	molecular weight
N	normal
nat.	natural
NB	nonbreaking
N/B	nitrile-butadiene
NBR	nitrile rubber, nitrile-butadiene rubber
NC	nitrocellulose
NCI	National Cancer Institute
need.	needles

neg.	negative
neut.	neutral, neutralized
NF	National Formulary
NFPA	National Fire Protection Association
ng	nanogram
NIOSH	National Institute for Occupational Safety and Health (U.S.)
nm	nanometer
no.	number
N_2O	nitrous oxide
NO_x	nitrogen oxides
NOEL	no observed effect level
NOI	not otherwise indexed (U.S. DOT)
nonalc.	nonalcoholic
nonaq.	nonaqueous
nonbiodeg.	nonbiodegradable
nonflamm.	nonflammable
nonyel.	nonyellowing
N.O.S.	not otherwise specified (transport regulations)
NPRI	National Pollutant Release Inventory (Canada)
NR	natural rubber, isoprene rubber (natural)
NSF	National Sanitation Foundation, National Standards Foundation
NTP	National Toxicology Program (U.S.)
NV	nonvolatiles
o-	ortho
OBPA	oxybisphenoxarsine
OC	open cup
ODC	ozone-depleting compound
ODP	ozone-depletion potential
OEL	occupational exposure limit
OEM	original equipment manufacturer
OMS	odorless mineral spirits
org.	organic
orig.	original
OSHA	Occupational Safety and Health Administration (U.S.)
OTC	over-the-counter
o/w	oil-in-water
oz	ounce
p-	para
Pa	Pascal
PBT	polybutylene terephthalate
pbw	parts by weight
PC	polycarbonate
PCB	polychlorinated biphenyl
pcf	pounds per cubic foot
PCMX	p-chloro-m-xylenol
PCP	Pest Control Product Act, 1972 (Canada)
PCTFE	polychlorotrifluoroethylene
PDIS	primary dermal irritation score
PE	polyethylene
PEEK	polyetheretherketone
PEG	polyethylene glycol
PEIS	primary eye irritation score
PEK	polyetherketone
PEL	permissible exposure level
perc	perchloroethylene
percut.	percutaneous
PES	polyether sulfone
PET	polyethylene terephthalate
petrol.	petroleum
PFPE	perfluoropolyether
PG	propylene glycol
pH	hydrogen-ion concentration
Ph.	Pharmacopoeia
Ph.Eur.	European Pharmacopoeia
PHA	phosphonohyroxyacetic acid
pharm.	pharmaceutical
Ph.Eur.	European Pharmacopoeia
phr	parts per hundred of rubber or resin
PIB	polyisobutylene
PIN	product identification number
PIR	polyisocyanurate
Pk	peak concentration
pkg.	packaging
PM, P-M	Pensky-Martens
PMCC	Pensky-Martens closed cup
PMMA	polymethyl methacrylate
PMOC	Pensky-Martens open cup
PO	propylene oxide
POC	particulate organic carbon
POE	polyoxyethylene, polyoxyethylated
polyunsat.	polyunsaturated
PoM	prescription-only medicine
POM	polyoxymethylene
POP	polyoxypropylene, polyoxypropylated
POP's	persistant organic pollutants
powd.	powder
PP	polypropylene
ppb	parts per billion
PPE	polyphenylene ether
PPG	polypropylene glycol
pph	parts per hundred (percent)
ppm	parts per million
PPO	polyphenylene oxide
PPS	polyphenylene sulfide
ppt	parts per trillion
pract.	practically
prep(s).	preparation(s)
prod.	product(s), production
props.	properties
PS	polystyrene
ps	poise
psi	pounds per square inch
psia	pounds per square inch absolute
psig	pounds per square inch gauge
pt.	point
Pt-Co	platinum-cobalt
PTFE	polytetrafluoroethylene
PTMEG	polytetramethylene ether glycol
PU	polyurethane
PUF	polyurethane foam
PUR	polyurethane
PVA	polyvinyl alcohol
PVAc	polyvinyl acetate
PVAL	polyvinyl alcohol
PVB	polyvinyl butyral
PVC	polyvinyl chloride
PVC-P	plasticized polyvinyl chloride
PVC-U	unplasticized polyvinyl chloride
PVDC, PVdC	polyvinylidene chloride
PVDF	polyvinylidene fluoride
PVM	polyvinyl methyl ether
PVM/MA	polyvinyl methyl ether/maleic anhydride
PVP	polyvinylpyrrolidone
PWB	partial weight bearing
qt	quart
quat.	quaternary
R&B	Ring & Ball
rbt	rabbit
RCRA	Resource Conservation and Recovery Act (U.S. EPA 40CFR §261)
R&D	research and development
RDA	recommended daily allowances
rdsh.	reddish
rec.	recommended
ref.	refractive
reg.	registry
regs.	regulations
REL	recommended exposure limit
rep.	represents
resist.	resistance, resistant, resistivity
resp.	respectively
RFI	radio frequency interference

r.h.	relative humidity
rhomb.	rhombic
RIM	reaction injection molded/molding
RO	reverse osmosis
rpm	revolutions per minute
RQ	reportable quantity
R.T.	room temperature
RTECS	Registry of Toxic Effects of Chemical Substances (U.S.)
RTM	resin transfer molding
RTV	room temperature vulcanizing
RV	recreational vehicle
s	second(s)
s-	secondary
SADT	self accelerating decomposition temp.
SAN	styrene-acrylonitrile
sapon.	saponification
SARA	Superfund Amendments & Reauthorization Act (U.S.)
sat.	saturated
S/B	styrene/butadiene
SBR	styrene/butadiene rubber
SBS	styrene-butadiene-styrene
SD	specially denatured
SDA	specially denatured alcohol
SE	self-emulsifying
SEBS	styrene-ethylene/butylene-styrene
sec.	secondary
semicryst.	semicrystalline
semiliq.	semiliquid
semisyn.	semisynthetic
sl.	slight, slightly
sm.	small
SMA	styrene maleic anhydride
SMC	sheet molding compound
SMG	succinylated monoglycerides
SNAP	Significant New Alternative Policy (U.S. EPA)
soften.	softening
sol.	soluble, solubility
solid.	solidification
sol'n.	solution
solv(s).	solvent(s)
sp.	specific
spec.	specification, specialty
SPF	sun protection factor
spp.	non-specified species
SRF	semireiniforced furnace
SS	stainless steel
SSU	Saybolt Universal Seconds
std.	standard
STEL	short term exposure limit
Stod.	Stoddard solvent
STP	standard temperature and pressure
str.	strength
subcut.	subcutaneous
subl.	sublimes
surf.	surface
SUS	Saybolt Universal Seconds
susp.	suspension
syn.	synthetic
t	tertiary
TAPPI	Technical Association of the Pulp & Paper Industry
TBHQ	tert-butyl hydroquinone
TCC	Tag closed cup
TCLo	toxic concentration low
TDI	toluene diisocyanate
TDLo	toxic dose low
TDS	total dissolved solids
TEA	triethanolamine, triethanolamide
tech.	technical
temp.	temperature
tens.	tensile, tension
tert	tertiary
THF	tetrahydrofuran
THMs	trihalomethanes
TIPA	triisopropanolamine
TKPP	tetrapotassium pyrophosphate
TLV	Threshold Limit Value
TLV-CL	Threshold Limit Value/ceiling limit
TLV-STEL	Threshold Limit Value/short therm exposure limit
TLV-TWA	Threshold Limit Value/time weighted average
TMC	thick molding compound
TOC	Tag open cup, total organic carbon
tox.	toxicity
TPE	thermoplastic elastomer
TPU	thermoplastic polyurethane
TRI	Toxic Release Inventory
TSCA	Toxic Substances Control Act
tsp	teaspoon
TSS	total suspended solids
TWA	time weighted average
TWC	time weighted concentration
typ.	typical
uel	upper explosive limits
UF	urea formaldehyde
UF	ultra filtration
UHF	ultra high frequency
UHMW	ultra high molecular weight
UHMWPE	ultra high molecular weight polyethylene
UHT	ultra high temperature
UL	Underwriter's Laboratory
UN No.	United Nations Substance Identification Number (for transport purposes)
unsat.	unsaturated
UPVC	unplasticized polyvinyl chloride
USDA	U.S. Department of Agriculture
USFA	United States Food Additives
USP	United States Pharmacopeia
uv, UV	ultraviolet
V	volt
VA	vinyl acetate
VAE	vinyl acetate ethylene
VC	vinyl chloride
VCA	vinyl chloride-acrylic
VdC, VDC	vinylidene chloride
veg(s).	vegetable, vegetables
visc.	viscous, viscosity
VM&P	Varnish Makers and Painters
VOC	volatile organic compounds
vol.	volume
v/v	volume by volume
wh.	white
WEEL	Workplace Environmental Exposure Level (U.S.)
WFC	World Food Council
WHMIS	Workplace Hazardous Materials Information System (Canada)
WHO	World Health Organization (United Nations)
wks	weeks
w/o	water-in-oil
wt.	weight
w/v	weight by volume
w/w	weight by weight
XLPE	crosslinked polyethylene
X-PE	crosslinked polyethylene
yel.	yellow
ylsh.	yellowish
yr	year
#	number
%	percent
<	less than
>	greater than
≤	less than or equal to
±	plus or minus
≥	greater than or equal to
@	at

α	alpha
β	beta
δ,Δ	delta
ε	epsilon
γ	gamma
ω	omega
μ	micron, micrometer
μg	microgram
≈	approximately equal to

Contents

Part I
Trade Name Reference

A

#1 Oil [CasChem]
Chem. Descrip.: Castor oil, tech.
CAS 8001-79-4; EINECS/ELINCS 232-293-8
Uses: Plasticizer, tackifier, penetrant for adhesives, inks, coatings, sealants; industrial lubricants; pigment dispersion in coatings; leather softener/preserver; solubilizer for detergents; plasticizer, mold release for rubber; waxes and polishes; textile processing
Features: Tech. grade for industrial use
Properties: Gardner 2+ oil; sp.gr. 0.959; visc. 7.5 stokes; pour pt. -10 F; acid no. 2; iodine no. 86; sapon. no. 180; hyd. no. 158

#15 Oil [CasChem]
Chem. Descrip.: Polymerized castor oil
Uses: Pigment wetting agent/dispersant; plasticizer for resins, gums, polymers; lubricant; penetrant; coupling solvent; adhesion promoter; for cellulose lacquers, inks, adhesives, industrial lubricants, polishes, caulks, leather dressing, hydraulic fluids; rubber compding.
Regulatory: FDA approval
Properties: Gardner 11 color; sp.gr. 1.013; visc. 250 stokes; pour pt. 35 F; acid no. 14; iodine no. 64; sapon. no. 220; hyd. no. 137

#30 Oil [CasChem]
Chem. Descrip.: Polymerized castor oil
Uses: Pigment wetting agent/dispersant; plasticizer for resins, gums, polymers; lubricant, penetrant, coupling solvent, adhesion promoter for cellulose lacquers, inks, adhesives, industrial lubricants, polishes, caulks, leather dressing, hydraulic fluids, rubber compding.
Regulatory: FDA approval
Properties: Gardner 13 visc. liq.; sp.gr. 1.019; visc. 500 stokes; pour pt. 45 F; acid no. 13; iodine no. 63; sapon. no. 220; hyd. no. 136

#40 Oil [CasChem]
Chem. Descrip.: Polymerized castor oil
Uses: Pigment wetting agent/dispersant; plasticizer for resins, gums, polymers; lubricant, penetrant, coupling solvent, adhesion promoter for cellulose lacquers, inks, adhesives, industrial lubricants, polishes, caulks, leather dressing, hydraulic fluids, rubber compding.
Regulatory: FDA approval
Properties: Gardner 14 color; sp.gr. 1.020; visc. 800 stokes; pour pt. 50 F; acid no. 13; iodine no. 60; sapon. no. 225; hyd. no. 135

1W70, 1W73 [Honeywell Perf. Fibers]
Chem. Descrip.: Polyester
Uses: Reinforcing material for in-rubber composites providing high str. and low elong.; 1W73 has a special finish to make it adhesive active for exc. adhesion to rubber using a single-dip adhesive system
Properties: Tenacity 8.9 g/d; shrinkage 8.5% (350 F); toughness 0.7 g/d

1W74 [Honeywell Perf. Fibers]
Chem. Descrip.: Polyester
Uses: Reinforcing material for in-rubber composites providing low shrinkage and special adhesive active finish; its toughness and exc. impact resist. make it ideal for conveyor belt applics.
Properties: Tenacity 8.3 g/d; shrinkage 2% (350 F); toughness 0.9 g/d

1X33 [Honeywell Perf. Fibers]
Chem. Descrip.: Polyester
Uses: Reinforcing material for in-rubber composites providing lower elong. and lower shrinkage than 1W70 and superior part-load and high dimensional stability; special adhesive active finish provides exc. adhesion to rubber using a single-dip system
Properties: Tenacity 7.8 g/d; shrinkage 4.5% (350 F); toughness 0.39 g/d

1X40, 1X43 [Honeywell Perf. Fibers]
Chem. Descrip.: Polyester
Uses: Reinforcing material for in-rubber composites; designed as rayon replacement; offers highest dimensional stability at cost-effective replacement factor; special adhesive active finish provides exc. adhesion to rubber using a single-dip system
Properties: Tenacity 7.8 g/d; shrinkage 4.5% (350 F); toughness 0.39 g/d

2-Pyrol® [ISP]
Chem. Descrip.: 2-Pyrrolidone
CAS 616-45-5; EINECS/ELINCS 204-648-7
Uses: Monomer for polypyrrolidone; solvent for polymers, insecticides, polyhydroxylic alcohols, sugars, iodine, specialty inks; used in petrol. processing and acrylonitrile mfg.; solvent, solubilizer, intermediate for pharmaceuticals; plasticizer/coalescing agent for acrylic latexes, acrylic-styrene copolymers in emulsion-type floor coatings; intermediate for N-methylol derivs., alkaloids related to peganine, amino-butyric acid derivs.; adhesives
Properties: Liq.; solidifies below 25 C; misc. with water, ethanol, ethyl ether, chloroform, benzene, ethyl acetate, CS_2; insol. in aliphatic hydrocarbons; sp.gr. 0.11 (25/4 C); visc. 13.3 cp; m.p. 25 C; b.p. 245 C; flash pt. (OC) 130 C
Precaution: Noncorrosive; low fire hazard

4-K [Oglebay Norton]
Chem. Descrip.: Mica
CAS 12001-26-2; EINECS/ELINCS 310-127-6
Uses: Filler for joint compds., adhesives, sealants, foundry coatings, electrode coatings; antisticking agent in rubber roofing; reinforcing agent (inc. stiffness, prevents warping, improves dimensional stability) in thermoplastic resin composites; insulator aiding dielec. props. in thermoset resin composites
Features: Reduces shrinkage, cracking in adhesives
Properties: 54 µ median size; bulk dens. 16 lb/ft^3

10 WOLLASTOCOAT® [Nyco Mins.]
Chem. Descrip.: Surface-modified wollastonite
Chem. Analysis: SiO_2 (51%), CaO (47.5%)
Uses: Filler, additive for plastics, coating, friction, refractory, ceramic, construction, elastomer, sealant, and adhesive applics., for nylon, phenolic molding compds., epoxy, polyester, PU/polyurea
Features: Cost-effective functional filler; surf. modifications can improve processing, bonding between resin and filler, mech. and phys. props., material handling and warehousing, etc.
Properties: Wh. acicular powd., faint odor; 3 µm median particle size; 100% -20 µ, 96% -10 µ; fineness Hegman 6-7; sol. 0.01 g/100 cc in water; sp.gr. 2.9; dens. 24.2 lb/solid gal; bulk dens. 0.48 g/cc (loose); bulk value 0.0413 gal/lb; surf. area 4.1 m^2/g; oil absorp. 24; GE brightness 95; m.p. 1540 C; ref. index 1.63; pH 9.9 (10% slurry); hardness (Mohs) 4.5; > 99% wollastonite, < 1% proprietary treatments
Toxicology: Nuisance dust, TLV/TWA 10 mg/m^3 (8 h, total dust); long-term cumulative inh. can cause restriction of airways; may cause minor skin irritation
Precaution: Surf. treatments may oxidize or decomp. at elevated temps.; burning may produce sm. amts. of oxides of carbon, silicon, nitrogen, or sulfur
Storage: Keep dry and cool in original shipping containers until use

45-55 Mastic Asphalt Filler [Omya UK]
Chem. Descrip.: Limestone
Chem. Analysis: $CaCO_3$ (98.5%), SiO_2 (0.6%), Al_2O_3 (0.4%, Fe_2O_3 (0.1%), moisture (< 0.1%)
CAS 1317-65-3
Uses: Mastic asphalt filler for building and civil engineering
Properties: 0.5% on 2.36 mm sieve; 50% on 75 µm sieve; sp.gr. 2.7

142 Solvent 66/3 [CITGO Petrol.]
Chem. Descrip.: Stoddard solvent
CAS 8052-41-3; EINECS/ELINCS 265-198-5
UN 1268

Uses: Solvent; food pkg. adhesives; in surf. lubricants for mfg. of food-contact metallic articles
Features: Med. boiling; hydrotreated to reduce aromatics and olefins; meets definition of non-photochemically reactive as defined by 66/3 Rule requirements
Regulatory: FDA 21CFR §175.105, 178.3620, 178.3910; SARA §302/304 nonreportable, §311/312 acute health/chronic health/fire hazard, §313 nonreportable; Calif. Prop. 65 nonreportable; may contain detectable amts. 1,3,5-trimethylbenzene
Properties: Colorless transparent liq.; lt. paraffinic hydrocarbon odor; negligible sol. in cold water (< 0.01%); sp.gr. 0.768-0.820 (60/60 F); dens. 6.61 lb/gal (15.6 C); visc. 1.72 cSt (20 C); vapor pressure 2.9 mm Hg (20 C); f.p. -85 to -25 C; b.p. 188-207 C; flash pt. (TCC) 61-63 C; autoignition temp. 235 C; ref. index 1.4319 (20 C); KB value 31; VOC 793 g/l; 100% act.
Toxicology: ACGIH TLV TWA 100 ppm; LD50 (oral, rat) > 34,600 mg/kg; mist/vapor may irritate eyes, mucous membranes, respiratory tract; liq. contact may cause minimal to mod. eye irritation, mod. to severe skin irritation/inflamm.; may be harmful by inh., skin absorp.; overexposure may cause CNS depression, other target organ effects; may be harmful or fatal by ing.; aspiration into lungs can cause pulmonary edema, chem. pneumonia; TSCA listed
Environmental: May cause oxygen depletion in waterways; potentially toxic to water ecosystems; may be hazardous to aquatic life; may contribute to smog; prevent entry into sewers, waterways; not a DOT marine pollutant
Precaution: Combustible liq.; flamm. limits 0.8-6.0%; vapor may cause flash fire; vapors are heavier than air, may flash back; may create vapor/air explosion hazard in confined spaces; spills may create a slipping hazard; floats on water; container can rupture in fire; prevent entry into basements, confined areas; bond and ground equip.; incompat. with strong acids, alkalis, oxidizers (liq. chlorine, other halogens, hydrogen peroxide, oxygen)
Hazardous Decomp. Prods.: Combustion: smoke, CO, CO_2, possibly other harmful gases/vapors
HMIS: Health 1, Flammability 2, Reactivity 0
Storage: Store in tightly closed containers in cool, dry, well-ventilated place away from heat, sparks, ignition sources, strong oxidizing conditions

400 WOLLASTOCOAT® [Nyco Mins.]
Chem. Descrip.: Surface-modified wollastonite
Chem. Analysis: SiO_2 (51%), CaO (47.5%)
Uses: Filler, additive for plastics, coating, friction, refractory, ceramic, construction, elastomer, sealant, and adhesive applics., for nylon, phenolic molding compds., epoxy, polyester, PU/polyurea
Features: Cost-effective functional filler; surf. modifications can improve processing, bonding between resin and filler, mech. and phys. props., material handling and warehousing, etc.
Properties: Wh. acicular powd., faint odor; 7 µm median particle size; 65% -10 µ; sol. 0.01 g/100 cc in water; sp.gr. 2.9; dens. 24.2 lb/solid gal; bulk dens. 0.64 g/cc (loose); bulk value 0.0413 gal/lb; surf. area 1.9 m^2/g; oil absorp. 22; GE brightness 94; m.p. 1540 C; ref. index 1.63; pH 9.9 (10% slurry); hardness (Mohs) 4.5; > 99% wollastonite, < 1% proprietary treatments
Toxicology: Nuisance dust, TLV/TWA 10 mg/m^3 (8 h, total dust); long-term cumulative inh. can cause restriction of airways; may cause minor skin irritation
Precaution: Surf. treatments may oxidize or decomp. at elevated temps.; burning may produce sm. amts. of oxides of carbon, silicon, nitrogen, or sulfur
Storage: Keep dry and cool in original shipping containers until use

1270 [Degussa]
Uses: Adhesion resin in water-dilutable coatings
Properties: Visc. liq.; sp.gr. 1.07 g/cm^3; acid no. 40; 70% solids in s-butanol

A-625 [SPI Polyols]
Chem. Descrip.: Sorbitol sol'n.
CAS 50-70-4; EINECS/ELINCS 200-061-5
Uses: Bodying agent, bulking agent, conditioner, gloss aid, humectant, plasticizer, shelf-life extender, suspending agent, texturizer in cosmetic creams/lotions, hair care prods.; flexibilizer, gloss aid, humectant, plasticizer, shelf-life extender, warping/shrinking preventer in adhesives, glues; antistat, binder, chelating agent, flexibilizer, humectant, plasticizer, softener in paper; antistat, chelating agent, humectant in textiles
Features: Noncrystallizing

Abalyn® [Eastman]
Chem. Descrip.: Methyl rosinate
CAS 68186-14-1; EINECS/ELINCS 269-035-9
Uses: Softener, tackifier for NR, SBR, reclaimed rubber, chlorinated rubber, IIR, EVA, CR, polyisobutylene, PS; improves processing and pigment disp.; tackifier for cements; surf.-wetting properties; used in lacquers, inks, paper coatings, varnishes, adhesives, sealing compds., plastics, rubber, wood preservatives, and perfumes
Properties: Amber visc. liq.; sol. in esters, ketones, alcohols, ethers, petrol. hydrocarbons, and veg. and min. oils; water-insol.; sp.gr. 1.03; dens. 1.03 kg/l; visc. (G-H) Z1; b.p. 352-356 C; acid no. 6; sapon. no. 160; ref. index 1.5300; flash pt. (COC) 180 C

Abex® 12S [Rhodia HPCII]
Chem. Descrip.: Sodium alkyl ether sulfate
Uses: Emulsifier for vinyl acetate, acrylates, methacrylates, styrene, butadiene polymerization for paper coatings, textile coatings, paints, adhesives, industrial coatings
Properties: Liq.; anionic; 30% act.

Abex® 18S [Rhodia HPCII]
Chem. Descrip.: Proprietary/sodium
Uses: Detergent, emulsifier for polymerization of vinyl acetate, acrylates, styrene, butadiene; mineral oil emulsifier; rewetting agent; surfactant for paper coatings, textile coatings, paints, adhesives, industrial coatings, floor polishes; in food pkg. adhesives; in paper/paperboard in contact with aq./fatty/dry foods
Features: Low foaming
Regulatory: FDA 21CFR §175.105, 176.170, 176.180; Canada DSL, EINECS, Australia, Korea listed
Properties: Gardner 2 cl. liq.; dens. 8.5 lb/gal; visc. 1000 cps; cloud pt. 10 C (lower), > 100 C (upper); pH 7.5-8.5 (10%); surf. tens. 48 dynes/cm (1%); Draves wetting 45-50 s (0.1%); anionic; 35% act.
Toxicology: TSCA listed

Abex® 22S [Rhodia HPCII]
Chem. Descrip.: Proprietary/sodium
Uses: Detergent, emulsifier for use in polymerization of vinyl acetate and acrylates; mineral oil emulsifier; rewetting agent; surfactant for paper coatings, textile coatings, paints, adhesives, industrial coatings, floor polish, pigment binders; in food pkg. adhesives; in paper/paperboard in contact with aq./fatty/dry foods
Features: Low foaming
Regulatory: FDA 21CFR §175.105, 176.170, 176.180
Properties: Pale yel. liq.; dens. 8.7 lb/gal; visc. 1000 cps; cloud pt. 23 C (lower), > 100 C (upper); pH 8 (10%); surf. tens. 55 dynes/cm (@ CMC); anionic; 25% solids

Abex® 23S [Rhodia HPCII]
Chem. Descrip.: Sodium laureth sulfate
CAS 9004-82-4; EINECS/ELINCS 221-416-0
Uses: Emulsifier for emulsion polymerization of vinyl acetate, acrylates, methacrylates, styrene, butadiene for paper coatings, textile coatings, paints, adhesives, industrial coatings
Regulatory: Canada DSL, EINECS, Australia, Korea listed
Properties: Liq.; surf. tens. 40 dynes/cm (@ CMC); anionic; 60% conc.
Toxicology: TSCA listed

Abex® 26S [Rhodia HPCII]
Chem. Descrip.: Sodium alkylaryl ethoxy sulfate
Uses: Emulsifier for emulsion polymerization of vinyl acetate, acrylates, methacrylates, styrene, butadiene for paper coatings, textile coatings, paints, adhesives, industrial coatings; food pkg. adhesives; component in paper/paperboard in contact with aq./fatty/dry foods
Regulatory: FDA 21CFR §175.105, 176.170, 176.180; BGA XIV compliance; Canada DSL, Korea, Japan listed
Properties: Pale yel. liq.; dens. 8.8 lb/gal; visc. 100 cps; cloud pt. 10 C (lower), > 100 C (upper); pH 8 (10%); surf. tens. 55 dynes/cm (@ CMC); anionic; 33% solids
Toxicology: TSCA listed

Abex® 33S [Rhodia HPCII]
Chem. Descrip.: Sodium alkylaryl ethoxy sulfate
Uses: Emulsifier for emulsion polymerization of vinyl acetate, acrylates, methacrylates, styrene, butadiene for paper coatings, textile coatings,

paints, adhesives, industrial coatings; base for scrub soaps, rug shampoos, general detergent applics.; lime soap dispersant
Properties: Gardner 5 cl. liq.; sp.gr. 1.06; dens. 8.8 lb/gal; visc. 1500 cps max.; cloud pt. 20 C max.; pH 7.5-9.0 (10%); surf. tens. 37 dynes/cm (@ CMC); anionic; 26-28% act.
Toxicology: TSCA listed

Abex® 2005 [Rhodia HPCII]
Chem. Descrip.: Proprietary
Uses: Surfactant; emulsifier for latexes; steric and electrostatic stabilizer for emulsion polymerization; food pkg. adhesives; defoamer in food-contact paper coatings
Features: APE-free; rec. for environmentally sensitive applics.
Regulatory: FDA 21CFR §175.105, 176.200; BGA XIV compliance
Properties: Liq.; surf. tens. 34.5 dynes/cm; anionic; 30% solids in water

Abex® 2010 [Rhodia HPCII]
Chem. Descrip.: Proprietary
Uses: Emulsifier in acrylic and styrene acrylic copolymers; food pkg. adhesives
Features: Low VOC; surfactant alternative for environmentally sensitive requirements
Regulatory: FDA 21CFR §175.105; BGA XIV compliance
Properties: Liq.; surf. tens. 35.5 dynes/cm; anionic; 30% act.
Environmental: Biodeg.

Abex® 2020 [Rhodia HPCII]
Uses: Emulsifier in vinyl acrylic, acrylic, and styrene acrylic latexes; food pkg. adhesives; in paper/paperboard in contact with dry food
Features: Low VOC; surfactant alternative for environmentally sensitive requirements
Regulatory: FDA 21CFR §175.105, 176.180; BGA XIV compliance
Properties: Liq.; surf. tens. 41.0 dynes/cm; anionic; 30% act.
Environmental: Biodeg.

Abex® 2030 [Rhodia HPCII]
Uses: Emulsifier in vinyl acrylic polymers made by redox or thermal processes; also effectively used in acrylic and styrene acrylic polymers; food pkg. adhesives
Features: Exc. latex stability without need for protective colloid; low VOC; surfactant alternative for environmentally sensitive requirements
Regulatory: FDA 21CFR §175.105; BGA XIV compliance
Properties: Liq.; surf. tens. 46.0 dynes/cm; anionic; 30% act.
Environmental: Biodeg.

Abex® 2515 [Rhodia HPCII]
Uses: Emulsifier in vinyl acrylic, ethylene vinyl acetate, acrylic, and styrene acrylic copolymers; food pkg. adhesives; in paper/paperboard in contact with aq./fatty/dry foods
Features: Low VOC; surfactant alternative for environmentally sensitive requirements
Regulatory: FDA 21CFR §175.105, 176.170, 176.180; BGA XIV compliance
Properties: Liq.; HLB 16.3; surf. tens. 38.0 dynes/cm; nonionic; 50% act.
Use Level: 3-5% (sole emulsifier); 3% total emulsifier
Environmental: Biodeg.

Abex® 2525 [Rhodia HPCII]
Uses: Emulsifier in vinyl acrylic, ethylene vinyl acetate, acrylic, and styrene acrylic copolymers; food pkg. adhesives; in paper/paperboard in contact with aq./fatty/dry foods
Features: Low VOC; surfactant alternative for environmentally sensitive requirements
Regulatory: FDA 21CFR §175.105, 176.170, 176.180; BGA XIV compliance
Properties: Liq.; HLB 17.4; surf. tens. 43.5 dynes/cm; nonionic; 50% act.
Use Level: 3-5% (sole emulsifier); 3% total emulsifier
Environmental: Biodeg.

Abex® 2535 [Rhodia HPCII]
Uses: Emulsifier in vinyl acrylic, ethylene vinyl acetate, acrylic, and styrene acrylic copolymers; food pkg. adhesives; in paper/paperboard in contact with aq./fatty/dry foods
Features: Low VOC; surfactant alternative for environmentally sensitive requirements
Regulatory: FDA 21CFR §175.105, 176.170, 176.180; BGA XIV compliance
Properties: Liq.; HLB 18; surf. tens. 45.1 dynes/cm; nonionic; 50% act.
Use Level: 3-5% (sole emulsifier); 3% total emulsifier
Environmental: Biodeg.

Abex® 2545 [Rhodia HPCII]
Uses: Emulsifier in vinyl acrylic, ethylene vinyl acetate, acrylic, and styrene acrylic copolymers; food pkg. adhesives; in paper/paperboard in contact with aq./fatty/dry foods
Features: Low VOC; surfactant alternative for environmentally sensitive requirements
Regulatory: FDA 21CFR §175.105, 176.170, 176.180; BGA XIV compliance
Properties: Liq.; HLB 18.3; surf. tens. 45.5 dynes/cm; nonionic; 50% act.
Use Level: 3-5% (sole emulsifier); 3% total emulsifier
Environmental: Biodeg.

Abex® 3594 [Rhodia HPCII]
Chem. Descrip.: Aq. surfactant blend
Uses: Surfactant, emulsifier for latex or paper coatings, carpet backings, textiles, pressure-sensitive adhesives, esp. S/B, styrene/acrylic, and acrylic emulsion polymer systems
Features: Low color, mech. stability, low coagulum in latex systems; water resist.
Properties: Gardner 10 max. cl. liq.; water-sol.; dens. 1.06 g/ml; visc. 30-100 cps; f.p. -1 C; flash pt. > 100 C; pH 7.8-8.8 (10%); surf. tens. 32 dynes/cm (@ CMC); anionic; 397.5-39.5% NV solids

Abex® AAE-301 [Rhodia HPCII]
Chem. Descrip.: Sodium octylphenol ethoxy sulfate
Uses: Emulsifier for emulsion polymerization of vinyl acetate, acrylates, methacrylates, styrene, butadiene for paper coatings, textile coatings, paints, adhesives, industrial coatings
Properties: Liq.; anionic; 20% conc.

Abex® EP-100 [Rhodia HPCII]
Chem. Descrip.: Ammonium nonoxynol-4 sulfate
CAS 9051-57-4
Uses: Emulsifier for emulsion polymerization of vinyl acetate, acrylates, methacrylates, styrene, butadiene, latex for adhesives, paints, paper coatings, textile, and industrial and architectural coatings; surfactant for mild light-duty liqs.
Features: No VOC or alcohol
Regulatory: FDA 21CFR §1715.105, 175.300, 176.170, 176.180, 176.210, 178.3400
Properties: Gardner 3 max. cl. to sl. cloudy liq.; sol. in water; sp.gr. 1.04; f.p. -2 C; flash pt. > 100 C; pH 6.5-7.5; surf. tens. 33 dynes/cm (@ CMC); anionic; 26-28% act.
Toxicology: TSCA listed

Abex® EP-110 [Rhodia HPCII; Rhodia HPCII France]
Chem. Descrip.: Ammonium nonoxynol-9 sulfate
CAS 9051-57-4
Uses: Primary emulsifier and stabilizer for vinyl acetate, vinyl acetate/acrylic, all acrylic, styrene/acrylic, and S/B emulsion copolymers; wetting agent, dispersant for agric. formulations; surfactant for adhesives, paints, paper, textiles, and industrial coatings; food pkg. adhesives; component of paper/paperboard in contact with dry foods
Regulatory: FDA 21CFR §175.105, 176.180; EPA compliance; BGA XIV compliance
Properties: Pale yel. liq.; sp.gr. 1.04; visc. 91.0 cks; pour pt. 0 C; surf. tens. 38.3 dynes/cm (1%); anionic; 30% act.

Abex® EP-120 [Rhodia HPCII; Rhodia HPCII France]
Chem. Descrip.: Ammonium nonoxynol-30 sulfate
CAS 9051-57-4
Uses: Emulsifier for emulsion polymerization of vinyl acetate, acrylates, methacrylates, styrene, butadiene for paints, adhesives, paper, textile, and industrial coatings; stabilizer; wetting agent, dispersant for agric. formulations; food pkg. adhesives, paper
Features: Provides mech. and freeze/thaw stability
Regulatory: FDA 21CFR §175.105, 176.180; BGA XIV compliance
Properties: Pale yel. liq.; sp.gr. 1.06; visc. 111 cks; pour pt. 8 C; surf. tens. 40 dynes/cm (1%); anionic; 30% solids

Abex® EP-277 [Rhodia HPCII]
Chem. Descrip.: Sodium octylphenol ethoxy sulfate
CAS 69011-84-3
Uses: Emulsifier for emulsion polymerization of vinyl acetate, acrylates, methacrylates, styrene, butadiene for adhesives, paints, paper, textile, and industrial coatings
Properties: Liq.; anionic; 30% conc.