

APPENDIX

This list of trade-named apparatus and compositions, which is not necessarily complete, is included as a convenience to users of this Glossary. Only those chemicals have been included for which the compositions have been divulged by the suppliers. There is no assurance that the compositions will not be changed in the future. Although the compositions for trade-named products were obtained from what are believed to be reliable sources, the Society is not responsible as a body for the accuracy of the compositions given.

The following are suggested as sources of information on proprietary products used in the rubber industry:

"Compounding Ingredients for Rubber," 2nd

Edition (1947), published by *Rubber World*, New York.

"Rubber Red Book—Directory of the Rubber Industry," *Rubber Age*, 10th Edition (1955-6).

"An Encyclopedia of the Chemical Process Industries," Jeffrey R. Stewart, Chemical Publishing Co., Inc., New York (1956).

Buyers' Guide Issue, *Chemical Week*, Vol. 77, No. 12, Part 2, Sept. 17, 1955 (issued annually).

"Annotated Comprehensive List of Trade Names of Synthetics," T. R. Dawson and N. J. Thomsett, Croydon Research Association of British Rubber Manufacturers (1949).

"Chemical Synonyms and Trade Names," William Gardner, Van Nostrand Co., Inc., New York, 5th Edition (Revised and Enlarged) (1948).

"Chemical Trade Names and Commercial Synonyms—Dictionary of American Usage," Williams Haynes, Van Nostrand Co., Inc., New York (1951).

A

AgeRite (Products).—Trade names for several antioxidants. AgeRite Resin is the name of the condensation product of acetaldol and α -naphthylamine, which was probably the first antioxidant (H. A. Winkelmann and H. Gray). AgeRite Powder is phenyl- β -naphthylamine, AgeRite White is N,N'-di- β -naphthyl-*p*-phenylenediamine, AgeRite Alba is hydroquinone monobenzyl ether, and AgeRite Resin D is polymerized 2,2,4-trimethyl-1,2-dihydroquinoline.

Altax.—Trade name of the accelerator, benzothiazyl disulfide, which see.

Ameripol SN.—Synthetic natural rubber hydrocarbon. Process undisclosed.

Autoform.—A press similar to the Bag-O-Matic, which see.

B

Bag-O-Matic.—A press for curing a tire which in one sequence of operation does the bagging, curing, and debagging of a tire. The green tire from the tire machine

is laid directly over a barrel-shaped rubber bag; the press is closed and operates automatically. A somewhat similar press is called Autoform.

Banbury Mixer.—A machine for mixing rubber stocks, invented by Fernley H. Banbury, 1916. Each machine has an enclosed mixing chamber, doubly cylindrical in form, with a hollow rotor roughly pear-shaped in cross-section and formed in an interrupted spiral longitudinally in each of the cylindrical sections. In revolving, each rotor provides surfaces that converge acutely with the walls of the chamber. The rubber is worked between the rotors and the body of the machine. A floating weight in the feeding neck confines the batch within the sphere of mixing action. The machines of different sizes handle from 1 to 1500 lb of stock at a single mixing.

Brookfield Synchro-Lectric Viscometer.—A portable form of the rotating cylinder apparatus for the determination of the viscosity of latex.

Butaprene N.—The trade name for certain modified butadiene-acrylonitrile copolymers.

C

Captax.—Trade name for mercaptobenzothiazole, which see.

Chemigum N.—Trade name for certain modified butadiene-acrylonitrile copolymers.

Coral Rubber.—Synthetic natural rubber hydrocarbon, containing 93.8 per cent cis-polyisoprene and some 3,4-addition but no "trans" forms. Prepared by polymerizing 100 parts of isoprene with 0.1 part of finely divided lithium.

D

Desmodur.—German term for aromatic isocyanates. Desmodur R is triphenylmethane triisocyanate.

Diox 7.—tert-Butylisopropylbenzene hydroperoxide, used as an emulsion polymerizing agent.

Dowtherms.—Oils used as heat-transfer media for high-temperature heating. Dowtherm A is a eutectic mixture of diphenyl and diphenyl oxide, stable up to 725 F (385 C), boiling point 496 F (258 C), melting point 53.6 F (12 C). Dowtherm B is stabilized *o*-dichlorobenzene for heat-transfer purposes in the range 300 to 500 F.

Dresinate 214.—The potassium salt of disproportionated rosin, used as an emulsifier in the emulsion process for manufacturing GR-S.

Dresinate 731.—The sodium salt of disproportionated rosin, used as an emulsifier in the emulsion process for manufacturing GR-S.

F

Fade-Ometer.—An apparatus for accelerated light aging and light fastness testing of samples of vulcanized rubber and of plastics under the action of artificial light from an electric arc between carbons treated to produce a spectrum closely resembling that of sunlight or of a good sun lamp. The air in the neighborhood of the samples may be rendered humid when desired, by means of an evaporating tray

fitted beneath the lamp. Little, if any, ozone is formed.

G

Gastex Black.—A semi-reinforcing carbon black having particles larger than those in channel black.

Geon.—Trade name of a group of polyvinyl chloride plastics and latices. Properties vary from rubber-like to rigid thermoplastics. The substances are odorless, tasteless, nonflammable, and resistant to the action of most chemical substances. Other trade names are Vinylite, Pliovic, Ultron, Marvinol, and Exon.

Geon Latex.—The name applied to a material consisting of a stable colloidal dispersion of modified polyvinyl chloride resin in water.

Geon Plastic Latex.—A material consisting of a dispersion of uniform plastic particles in water, each containing its own quota of resin and plasticizer. Such resin is a modified polyvinyl chloride.

GMF.—*p*-Quinonedioxime. Dibenzo-GMF is dibenzo-*p*-benzoquinonedioxime. See *Benzoquinones*, *Vulcanization with*.

H

Halowax.—Chlorinated naphthalene.

Hycar.—Trade name for several synthetic rubbers. Hycar, 1000 series, formerly Hycar OR, are nitrile rubbers and are oil resistant, wherefore the initials. Hycar, 2000 series, formerly Hycar OS, are butadiene-styrene copolymers. Hycar 4021, formerly Hycar PEA, is a copolymer of ethyl acrylate and 2-chloroethyl vinyl ether.

Hydropol.—Trade name for hydrogenated polybutadiene. It has 5 to 30 per cent of the original unsaturation. The products resemble polyethylene but are generally more flexible, especially at low temperatures. They are useful in wire and cable coating, films, tubing, and various molded items.

Hypalon.—A chlorosulfonated polyethylene, which see.

K

Krynol.—Oil-extended GR-S prepared at Sarnia, Ontario, Canada

M

Mealorub.—A powdered natural raw rubber.

Mersolat.—An emulsifier. A mixture of sodium alkanesulfonates of 14 to 17 carbon atoms from a Fischer-Tropsch hydrocarbon fraction, made by treatment by chlorosulfonation.

Methazate.—Trade name of zinc dimethylthiuram disulfide, an ultra-accelerator of vulcanization, which see.

Methyl Tuads.—Trade name for tetramethylthiuram disulfide, an organic ultra-accelerator and vulcanizing agent, which see.

Monex.—Trade name for tetramethylthiuram monosulfide, an organic accelerator, which see.

Mono Thiurad.—Trade name of tetramethylthiuram monosulfide, an organic accelerator, which see.

N

Neophax.—A trade name for a special facit for compounding neoprene.

Neozone A.—A substituted aromatic amine antioxidant, phenyl- α -naphthylamine.

Neozone D.—A substituted aromatic amine antioxidant, phenyl- β -naphthylamine.

P

Paracril.—Trade name for certain modified butadiene-acrylonitrile copolymers.

Para Flux.—Trade name for asphaltic flux products, used as plasticizers and reclaiming oils.

Parlon.—Trade name for a chlorinated natural rubber.

Perbunan.—The German name of a nitrile rubber, earlier known as Buna N. Buna NN, with about 35 per cent of acrylonitrile, later was sold as Perbunan Extra.

Permalux.—Di-*o*-tolylguanidine salt of dicatechol borate; nondiscoloring antioxidant for natural rubber and GR-S, and accelerator for neoprene.

Pliofilm.—Trade name of natural-rubber hydrochloride, which is used as a film for packaging foods and other goods.

Plioform.—An obsolete name for Pliolite.

Pliolite.—Trade name for cyclized rubber prepared in solution by the action of tin chlorides. Includes other resinous products.

Polyac.—The trade name for *p*-dinitrosobenzene with inert fillers, used as a vulcanizing agent with GR-I (butyl rubber), and as an accelerator for neoprene.

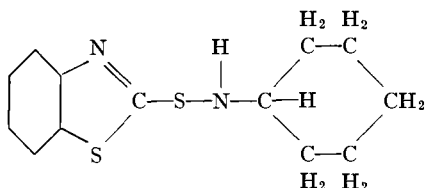
Pulvatex.—A powdered rubber comparable to "mealorub."

R

Rotocure.—Machine with a wide steel band for the continuous curing of flat rubber goods, conveyor belting, floor coverings, and gasket materials. See *Continuous Vulcanization*.

S

Santocure.—*n*-Cyclohexyl-2-benzothiazole-sulfenamide. Trade name for an organic accelerator which is much used in GR-S recipes.



Silastic.—A trade name for certain silicone rubbers.

Stearite.—Trade name for hydrogenated fish-oil fatty acid; a softener, and, with zinc oxide, an accelerator activator.

Stormer Rotating-Cylinder Viscometer.—An apparatus, consisting of a vertically disposed cylinder which is caused to rotate at a uniform rate in latex or other liquid, for the determination of its viscosity.

Sulfole B-8.—Trade name for tertiary dodecyl mercaptan, a modifying agent in emulsion polymerization.

T

Thermoflex A.—Trade name for a mixture of 4,4'-dimethoxydiphenylamine, *N,N'*-diphenyl-1,4-phenylenediamine, and phenyl-2-naphthylamine; an antioxidant.

Thiofide.—Trade name of benzothiazyl disulfide, an organic accelerator of vulcanization, which see.

Thiokol.—The first commercial synthetic rubber, 1929. Thiokol A is produced by the reaction of ethylene dichloride and sodium tetrasulfide, $\text{ClCH}_2\text{CH}_2\text{Cl} +$

$\text{Na}_2\text{S}_4 \rightarrow (-\text{CH}_2\text{CH}_2-\text{S}_4-)_x$. The atoms of sulfur may all be in a straight line. Thiokol is vulcanized by heating with zinc oxide, and is important because it is practically insoluble in petroleum oils. Thiokols are also prepared from the other dichloro compounds: di-(2-chloroethyl) ether, $\text{ClCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{Cl}$; and di-(2-chloroethyl) formal, $\text{ClCH}_2\text{CH}_2\text{OCH}_2\text{OCH}_2\text{CH}_2\text{Cl}$. These synthetic Thiokols are somewhat more swellable than Thiokol A.

Thionex.—Trade name for tetramethylthiuram monosulfide, an organic accelerator, which see.

Thiotax.—Trade name of mercaptobenzo-thiazole, an organic accelerator, which see.

Thiurad.—Trade name of tetramethylthiuram disulfide, an organic ultra-accelerator, which see.

Thiuram M.—Trade name of tetramethylthiuram disulfide, an organic ultra-accelerator of vulcanization, which see.

Tuads.—Trade name for tetramethylthiuram disulfide, an organic ultra-accelerator of vulcanization, which see.

Tuex.—Trade name for tetramethylthiuram disulfide, which see. An organic accelerator and nonelemental-sulfur vulcanizing agent.

U

Unads.—Trade name for tetramethylthiuram monosulfide, an accelerator of vulcanization, which see.

V

Versene.—Trade name for a sequestering agent, the sodium salt of ethylenediaminetetraacetic acid, which see.

VGB (Antioxidant).—The trade code for a special acetaldehyde-aniline condensation product, one of the first antioxidants.

Vistanex.—Trade name for polyisobutylene, a synthetic elastomer which has good tensile and high elongation but has not yet been vulcanized.

Vulcalock.—A process for bonding rubber to metal, with or without vulcanization. The cement is prepared from a cyclized rubber formed by heating a mixture of 100 parts of rubber and 7.5 parts of *p*-phenol-sulfonic acid. The cyclized rubber bond is unreliable at elevated temperatures, especially above about 150 F (66 C).

Vulkollan.—A synthetic rubber prepared from a polyester of adipic acid and molar excess of ethylene glycol and then reacted with an aromatic diisocyanate. The product is vulcanized with water, ethylene glycol, or ethylene diamine. It has a high abrasion resistance, high tear resistance, no color, and low hysteresis.

W

Weather-Ometer.—A weathering apparatus similar to the Fade-Ometer (which see), but in which water may be sprayed intermittently on the samples.

Werner-Pfleiderer Mixer.—A double-blade internal mixer.

Z

Zimate, Methyl.—Trade name of zinc dimethyldithiocarbamate, an ultra-accelerator, which see.