Please visit our Website @
www.chemical.kowa.com

PRODUCT LIST

- ***Methacrylate & Acrylate Monomers***
- ***Specialty Monomers & Isocyanates***
- ***Custom Sourcing of Specialty Chemicals***
- ***Specialty Solvents Including VOC Exempt Solvents***

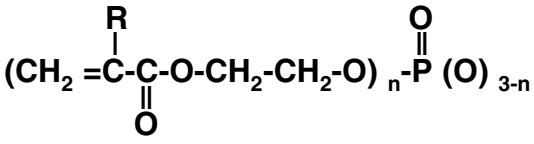
METHACRYLATE & ACRYLATE MONOMERS

*SPECIALTY ACRYLATES AND METHACRYLATE MONOMERS

POLYETHYLENE GLYCOL DI(METH)ACRYLATES (EO CHAINS FROM 1 THRU 23)
METHOXY POLYETHYLENE GLYCOL (METH)ACRYLATES (EO CHAINS 2 THRU 23)
ACID FUNCTIONAL MONOMERS (SUCCINIC, PHTHALIC AND MALEIC)
BISPHENOL A POLYETHOXY DI(METH)ACRYLATES (EO CHAINS 2.6 THRU 30)
PHENOXY POLYETHYLENE GLYCOL ACRYLATES (EO CHAINS 1 THRU 6)
SPECIALTY POLYMERIZABLE SURFACTANTS
PHENOXYETHYL METHACRYLATE
AROMATIC MONOMERS
TRICYCLODECANE DIMETHANOL DI(METH)ACRYLATES
TRIS ACRYLOYL OXYETHYL ISOCYANURATE

*PHOSPHATE FUNCTIONAL (METH)ACRYLATES

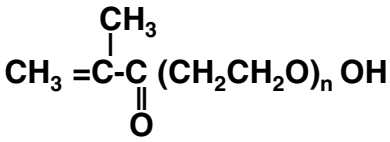
2-HYDROXYETHYL (METH)ACRYLATE ACID PHOSPHATE
ADHESION PROMOTING MONOMER FOR ADHESIVES, COATINGS AND ELECTRONIC APPLICATIONS; ALSO INCREASES THE TENSILE HARDNESS OF COATINGS FORMULATIONS



R = H or CH_3
n =1 and 2 (mixture)

(IN DEVELOPMENT: 4-HYDROXYBUTYL ACRYLATE ACID PHOSPHATE)

*POLYETHYLENE GLYCOL MONOMETHACRYLATES



n = 5, 10 or 15

USEFUL FOR ELECTRONIC, ADHESIVE AND COATINGS APPLICATIONS, ESPECIALLY USEFUL AS A POLYMERIZABLE SURFACTANT. HYDROXY FUNCTIONALITY CAN BE USED TO PRODUCE FLEXIBLE ACRYLIC POLYOLS

ALLYL ACRYLATE

HIGHLY REACTIVE CROSSLINKING MONOMER AND CHEMICAL INTERMEDIATE FOR OTHER FUNCTIONALIZED MONOMERS

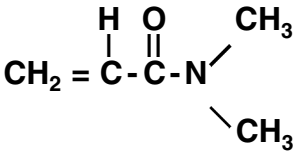
BROMINATED MONOMERS

2,4,6-TRIBROMOPHENYL ACRYLATE AND TRIBROMOPHENYL ETHOXY ACRYLATE
USEFUL FOR IMPROVING FLAME RETARDANCY PROPERTIES OF ACRYLIC RESINS AND FOR HIGH REFRACTIVE INDEX APPLICATIONS

(IN DEVELOPMENT: ETHOXYLATED TETRA BROMO BIS PHENOL A DIMETHACRYLATE)

ACRYLAMIDE & METHACRYLAMIDE MONOMERS

DIMETHYL ACRYLAMIDE



FAST CURING, LOW VISCOSITY DILUENT MONOMER. VERY GOOD ADHESION TO ENGINEERING RESINS SUCH AS POLYCARBONATE. PERFECT REPLACEMENT MONOMER FOR N-VINYL PYRROLIDONE.

DIACETONE ACRYLAMIDE

SPECIALTY MONOMER FOR ROOM TEMERATURE CURING WITH HYDRAZIDE AGENTS; ALSO IMPROVES ADHESION AND GRAIN CRACK RESISTANCE

METHACRYLAMIDE

A LOW TOXICITY REPLACEMENT FOR ACRYLAMIDE. OFFERS LOWER VISCOSITY WATER SOLUBLE POLYMERS AND HIGHER Tg THAN ACRYLAMIDE BASED POLYMERS.

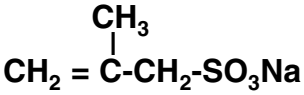
SPECIALTY ACRYLAMIDE AND METHACRYLAMIDE MONOMERS

ETHER DERIVATIVES OF N-METHYLOL ACRYLAMIDE AND METHACRYLAMIDE RANGING FROM METHOXY TO BUTOXY FUNCTIONALITIES. METHACRYLAMIDE DERIVATIVES ARE PRACTICALLY NON-TOXIC.
CAN BE USED AS POLYMERIZABLE AMINE SYNERGISTS IN RADIATION CURING.

*SULFONATE MONOMERS

SODIUM p-STYRENE SULFONATE

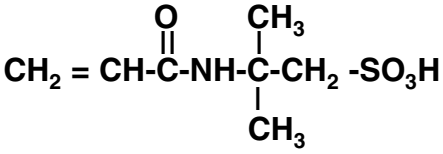
SODIUM METHALLYL SULFONATE



SODIUM ALLYL SULFONATE

SODIUM VINYL SULFONATE

2-ACRYLAMIDO-2-METHYL PROPANE SULFONIC ACID

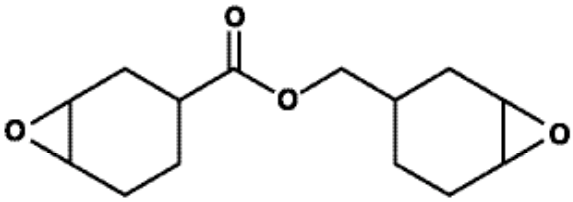


SODIUM SULFOPHENYL (METH)ALLYL ETHER
SODIUM 2-SULFOETHYL METHACRYLATE
SODIUM 2-SULFOBUTYL METHACRYLATE
VINYL SULFONIC ACID
ALLYL SULFONIC ACID
AMMONIUM SALTS OF ABOVE COMPOUNDS

*WATER SOLUBLE MONOMERS WITH SULFONATE FUNCTIONALITY.

CATIONIC CURE MONOMERS

CYCLOALIPHATIC EPOXIDES



DI-CYCLOHEXYL DI-EPOXIDE CARBOXYLATE

WIDE VARIETY OF COMMERCIAL AND DEVELOPMENTAL CYCLOALIPHATIC EPOXIDE PRODUCTS:

HIGHLY FLEXIBLE CAPROLACTONE BRIDGED DIEPOXIDES (N=1,3 OR 5)
CROSSLINKABLE AND FLEXIBLE TRI- AND TETRA-EPOXIDES
DILUENT CYCLOALIPHATIC EPOXIDES
EPOXIDIZED POLYBUTADIENE RESINS
LAURYL AND STEARYL EPOXIDES
HYDROXY, VINYL ETHER, ACRYLATE & METHACRYLATE FUNCTIONALIZED MONOEPOXIDES

VINYL ETHERS

A WIDE VARIETY OF VINYL ETHERS (OVER 20) FOR USE IN UV AND CATIONIC CURING APPLICATIONS. VINYL ETHERS PROVIDES FOR RAPID AND COMPLETE CURE COMBINED WITH LOW TOXICITY AND LOW IRRITATION.

SPECIALTY MONOMERS

POLYMERIZABLE SURFACTANTS

ANIONIC, NON-IONIC & ACID TYPE SURFACTANTS OR EMULSIFIERS, ESPECIALLY DESIGNED FOR EMULSION POLYMERIZATION. ALLOWS USE OF BOTH HYDROPHOBIC AND HYDROPHILIC MONOMERS IN SAME SYSTEM. CAN BE USED TO IMPROVE WATER RESISTANCE, ADHESION, WEARABILITY AND HEAT RESISTANCE. ANIONIC VERSIONS ARE BASED ON ETHER SULFATE FUNCTIONALITY, ACID VERSIONS ON PHOSPHORIC ACID ESTERS (SOME VERSIONS ALSO ETHOXYLATED), AND NON-IONIC VERSIONS BASED ON ETHYLENE OXIDE CHAINS OF 10 TO 40 MOLE.

SPECIALTY POLYMERIZABLE ESTERS

WIDE VARIETY OF UNSATURATED MALEATE, FUMARATE, AND ITACONATE ESTERS, DIVIDED IN TWO CATEGORIES:

DIESTERS WITH ORGANOPHILIC ESTER PROPERTIES
MONOESTERS WITH ORGANIC ACID FUNCTIONALITY

ALLYL ETHERS

MONO ALLYL ETHERS OF ETHYLENE GLYCOL AND VARIOUS POLYETHYLENE GLYCOLS

GLYCIDYL ETHERS

VARIETY OF ALKYL MONO GLYCIDYL ETHERS AND DIGLYCIDYL ETHERS FOR EPOXY RESINS AND EPOXY DILUENTS

MISCELLANEOUS MONOMERS

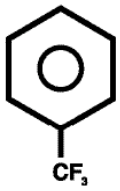
alpha-METHYL STYRENE DIMER
METHALLYL CHLORIDE
METHACRYLONITRILE

SOLVENTS

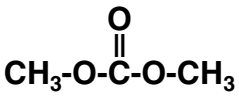
P-CLOROBENZOTRIFLUORIDE (PCBTF)

THIS IS THE ONLY AROMATIC COMPOUND THAT IS BOTH VOC EXEMPT AND HAPS FREE. PCBTF IS AN EXCELLENT SOLVENT AND DILUENT FOR ALMOST ALL TYPES OF RESINS AND MOLECULAR WEIGHTS. PCBTF HAS SOLVENT PROPERTIES MOST CLOSELY COMPARABLE TO XYLENE (SIMILAR BOILING RANGE, HYDROPHOBIC AND LOW POLARITY CHARACTER). PCBTF IS NON-REACTIVE TO METALS AND WATER SENSITIVE COMPONENTS SUCH AS ISOCYANATES OR EPOXIES.

PURITY	99.0% MIN	WATER	150 PPM MAX
ACIDITY	3 PPM MAX.	DENSITY	11.2 lb/gal
SOLUBILITY PARAMETER	8.6	KAURI BUTANOL VALUE	64
EVAPORATION RATE .9 (BUTYL ACETATE = 1.0)		FLASHPOINT	109˚F (43˚C)



BENZOTRIFLUORIDE (BTF) – PROPOSED VOC EXEMPT SOLVENT WITH SIMILAR AROMATIC PROPERTIES TO PCBTF. BTF HAS A FASTER EVAPORATION RATE OF 2.8 (BuAc = 1.0), THAT IS VERY SIMILAR TO THAT OF TOLUENE (2.4). KAURI BUTANOL = 4, SOLUBILITY PARAMETER = 7.9, FLASHPOINT 54˚F (12˚C)



DIMETHYL CARBONATE (DMC) – PROPOSED VOC EXEMPT SOLVENT WITH A FAST EVAPORATION RATE THAT IS ALMOST IDENTICAL TO ISOPROPYL ACETATE (5.0, BuAc = 1.0). HIGHER FLASHPOINT (63˚F OR 17˚C) THAN VOC EXEMPT ACETONE OR METHYL ACETATE. DMC HAS A PLEASANT ALCOHOL ODOR, A VERY LOW TOXICITY PROFILE, AND IS PARTIALLY SOLUBLE IN WATER (13.%).

ALSO AVAILABLE ARE DIETHYL CARBONATE, ETHYL METHYL CARBONATE, AND PROPYLENE CARBONATE ALONG WITH CORRESPONDING HIGHER PURITY LITHIUM ION BATTERY GRADES

3-METHOXY BUTANOL & 3-METHOXYBUTYL ACETATE – LOW TOXICITY & LOW VISCOSITY GLYCOL ETHERS WITH HIGH SOLVENCY (SOL. PARAMETER 9.7 FOR BOTH) AND FAVORABLE EVAPORATION RATES (.12 FOR BOTH). 3-METHOXY BUTANOL CAN BE USED IN WATER BORNE COATINGS SINCE IT IS WATER SOLUBLE.

3-METHOXYMETHYL PROPIONATE - SPECIALTY SOLVENT & PHOTORESIST CLEANING AGENT

SPECIALTY GLYCOL ETHERS – OVER 40 SPECIALTY MONO ALKYL AND DIALKYL GLYCOL ETHERS RANGING FROM DIMETHYL GLYCOL TO ETHYLHEXYL DIGLYCOL. PRODUCTS CAN BE USED IN WATER BORNE COATINGS AS COALESCING AGENTS OR AS CO-SOLVENTS TO FINE TUNE SOLVENT PROPERTIES.

Specialty Products

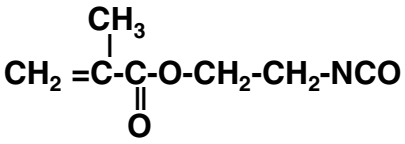
POLYACRYLIC ACID, SODIUM POLYACRYLATE & COPOLYMERS

VERY HIGH MW WATER SOLUBLE THICKENING AGENTS
EXCELLENT DISPERSING AIDS FOR INORGANIC FILLERS AND PIGMENTS
USEFUL FOR ADHESIVE BASES, CHELATION EFFECT ON METAL IONS

POLYETHYLENE OXIDE (HIGH MOLECULAR WEIGHT POLYETHYLENE GLYCOL)
VISCOSITY THICKENER FOR PAINTS AND PIGMENT DISPERSION AGENT FOR FLUORESCENT LAMPS AND OTHER COATINGS. HAS SYNERGISTIC EFFECT WITH HYDROXY ETHYL CELLULOSE FOR IMPROVED ANTI-SAGGING PROPERTIES OF SPRAY COATINGS OR ALTERNATIVELY REDUCE SPLATTERING OF ROLL ON COATINGS.

ISOCYANATES

*ISOCYANATO FUNCTIONAL METHACRYLATE



2-ISOCYANATOETHYL METHACRYLATE

*POSSIBLE DERIVATIVES:

a – POLYMERS (OLIGOMERS) WITH PENDANT NCO CAN BE EASILY PREPARED (WITH LOW BY-PRODUCTS).

b – POLYMERS (OLIGOMERS) WITH PENDANT METHACRYLOYL GROUP CAN BE PREPARED FOR CONVENTIONAL AND UV CURABLE APPLICATIONS.

c – NEW METHACRYLOYL FUNCTIONAL MONOMERS CAN BE EASILY PREPARED.

(KARENZ AOI, THE ACRYLATE ANALOG IS CURRENTLY IN DEVELOPMENT)

*HEXAMETHYLENE DIISOCYANATE (HDI) FOR URETHANES

ALIPHATIC DIISOCYANATES FOR IMPROVING WEATHERABILITY, GLOSS AND COLOR RETENTION OF URETHANE COATINGS. AVAILABLE IN BIURET, TRIMER, ADDUCT, BLOCKED AND BIFUNCTIONAL PREPOLYMER GRADES. THIS VARIETY OF GRADES ALLOWS FORMULATORS THE OPPORTUNITY TO ENHANCE DIFFERENT PROPERTIES OF POLYURETHANE COATINGS, SUCH AS FLEXIBILITY, UV RESISTANCE, AND HIGH GLOSS.

OCTADECYL (STEARYL) ISOCYANATE

HIGHLY REACTIVE ISOCYANATE FOR RELEASE COATINGS AND HYDROPHOBIC FILMS.

BLOCKED MDI CROSSLINKERS

DM-3031 (E-CAPROLACTAM BLOCKED)

DM-6400 (METHYLETHYL KETOXIME BLOCKED)

USEFUL PRETREATMENT FOR IMPROVING ADHESION OF POLYESTER FIBERS TO RUBBER ELASTOMERS. DEBLOCKING TEMPERATURE OF DM-3031IS AROUND 200˚C AND AROUND 150˚C FOR THE DM-6400

KOWA AMERICAN CORP. CHEMICAL DIVISION IS RESPONSIBLE FOR THE IMPORT AND EXPORT OF A VARIETY OF CHEMICAL PRODUCTS WORLDWIDE. OUR SPECIALIZATION IS SUPPLYING RAW MATERIALS TO THE COATINGS AND ADHESIVE INDUSTRIES WITH KEY EMPHASIS ON MONOMERS AND CROSSLINKING INGREDIENTS. WE WOULD LIKE TO ENCOURAGE CUSTOM SOURCING INQUIRIES FOR NEW OR HIGHER PURITY SPECIALTY CHEMICALS THAT OUR PROSPECTIVE CUSTOMERS MAY NEED.

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