LET'S TALK / DURABILITY

CHEMICAL RESISTANCE GUIDE
ATLAC PREMIUM 450

aliancys
QUALITY RESINS

ATLAC PREMIUM 450

IN THIS GUIDE WE DESCRIBE THE KEY PROPERTIES OF OUR HIGH PERFORMANCE, CHEMICAL RESISTANT RESIN **ATLAC PREMIUM 450**

In this brochure you can find information on our Atlac Premium 450. We have listed the maximum temperatures at which laminates based on these resins have demonstrated a good service life, and/ or shown positive test results in accordance with the mentioned test methods.

ATLAC® PREMIUM 450

Atlac® Premium 450 is a medium viscous, high reactive, thixotropic light curing vinyl ester resin dissolved in methacrylates. Atlac® Premium 450 has good resistance to hydrolysis and many chemicals. In particular, Atlac Premium offers a high resistance to organic solvents. Reinforcements may not always be optimized for use with styrene-free resins.
So when applying this resin, the suitability of the reinforcements should be checked.

ALIANCYS EXPERTISE

DELIVERING INNOVATION

Aliancys can help you to push the limits of composite part performance and component manufacturing. Taking an integral approach to new product development, we use our full expertise in quality resins, material science, testing and certification, and composite component manufacturing in order to shape new composites applications.

Through building strong relations in the supply chain, we help you to explain composites benefits to key decision makers. We know that co-creation and information sharing help to significantly reduce time-to-market. So let's talk performance and help you to increase your competitive advantage and business success.

QUALITY RESINS

Manufacturing high quality composite components is a prerequisite for your business success. You need consistent and reliable input materials. Resins that meet your specifications day after day, resulting in consistent part performance and a predictable volume output even in a large production series. Delivering to you peace-of-mind in your production process. Reducing safety factors in design, which translate into weight savings and reduced cost.

Aliancys can provide you with products of high quality consistency so you know your parts perform in the right way. Rather than fixing challenges in your operations, you can focus on your own business, keeping your hands free to build trust with your customers.

DSM HERITAGE

Aliancys can build on a 60 year track record of supplying composite resins. Previously serving the market under the name DSM Composite Resins, Aliancys has a heritage of quality, innovation and sustainability.

In close collaboration with its customers, Aliancys has demonstrated that it makes composite innovations happen delivering novel material solutions that provide benefits in terms of people, planet and profit. You can rely on us for your business today. Together we create a successful business tomorrow.

ENGAGE PROFESSIONALS

Aliancys wants to fully understand your business and works closely together to meet the needs of your customers. Besides providing you with low hassle and great service, we optimize the quality and output of your processes.

Our technical service team and great material testing capabilities help you to enhance composite part performance and will support in mitigating eventual process interruptions, so that you can be sure to deliver to your customers the components they need, in the quantities they need.

ADVICE ON CHEMICAL RESISTANCE

Aliancys has the ability to help you in making the best resin selection for your application exposed to a specific chemical environment (temperature, chemical type, exposure time). We can offer insights through our Chemical Resistance Information service, that builds on years of chemical resistance testing on our resins, combined with the experience gained in many projects around the world. Please contact us for more information.

GLOBAL SUPPORT CAPABILITIES

Aliancys has two R&D centers supporting our customers, one based in Zwolle (Netherlands) and one in Nanjing (China). Both have state-of-the-art equipment and support facilities, including mechanical property testing capabilities, and an analytical laboratory.

HOW TO USE THIS GUIDE?

In the table on the following pages you can find information about the long-term durability of properly manufactured laminates, made from Atlac Premium 450. We have listed the maximum temperatures at which laminates based on this resin have demonstrated a good service life, and/ or shown positive test results in accordance with the mentioned test methods.

The temperature recommendations are applicable to Atlac® Premium 450. Specific remarks with additional information on chemical resistance are added in the Notes (see page 19 for detail). In the case of chemical exposure above 80°C, or when using strong acids, alkalines, oxidizing media (high percentage and/ or high temperature) together with thixotropic resins, we recommend that you contact your Aliancys Technical Service representative for additional advice.

Aliancys can help you in making the best resin selection for your application. To make accurate recommendations we need to know:

- Chemical environment; composition, concentrations, pH values, storage conditions
- Service temperature, temperature profiles, maximum temperatures
- Mechanical exposure, pressure, static and cyclic loading
- Type of composite material and build-up used (fiber volume, chemical resistance layer)
- Equipment and process

This Chemical Resistance Guide is updated on a regular basis to include all new experience and laboratory testing results. The most recent (leading) update is available on the website: **aliancys.com/en/markets/industrial/**

CHEMICAL RESISTANCE INQUIRIES

Extensive chemical resistance testing has been performed for many resins according to quality standards ASTM C581-83/ DIN 53393/ DIN 18820, or EC design standard for Composite tanks and vessels for above ground, EN 13121 part 1 and 2. The laboratory tests have been conducted on well-prepared and fully cured test samples.

With Atlac® resins we now have a history that goes back more than forty years, where components have been in continuous service and exposed to different chemical substances and aggressive environments. By logging all these experiments, combined with our ongoing development and testing program, we have been able to build up an extensive knowledge base of how our resins perform in contact with a vast range of corrosive media in different concentrations and at different temperatures.

So far more than 14,000 entries are in our corrosion resistance database. Wherever possible, advice is given within 24-48 hours and in the local language!

FOR QUESTIONS ON THE CHEMICAL RESISTANCE OF ALIANCYS RESINS OR FOR RECEIVING FURTHER ADVICE, PLEASE CONTACT US AT CHEMICAL.RESISTANCE@ALIANCYS.COM

GLOSSARY OF TERMS

NR	Not recommended at any temperature.
–	Not tested
Sat'd	Saturated
Dil.	Diluted
Conc.	Concentrated
FRP	Composite materials (Fiber Reinforced Plastics)

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
A			
ACETALDEHYDE	100	N.R.	
ACETIC ACID	10	40	0
ACETIC ACID	15	25	0
ACETIC ACID	25	N.R.	0
ACETIC ACID	40	N.R.	
ACETIC ACID	50	N.R.	
ACETIC ACID	75	N.R.	
ACETIC ACID	80	N.R.	
ACETIC ACID	85	N.R.	
ACETIC ACID	100	N.R.	
ACETIC ACID GLACIAL	100	N.R.	
ACETIC ANHYDRIDE	100	N.R.	9
ACETIC : NITRIC ACID : CHROMIC OXIDE : H2O	3 : 5 : 3 : 89	-	
ACETIC : SULFURIC ACID : H2O	20 : 10 : 70	-	
ACETONE	5	N.R.	
ACETONE	10	N.R.	
ACETONE	100	N.R.	
ACETONE : METHYLETHYL KETONE : METHYLISOBUTYL KETONE : H2O	2 : 2 : 2 : 94	N.R.	
ACETONITRILE	all	N.R.	
ACETYL ACETONE	20	-	
ACETYL ACETONE	100	N.R.	
ACETYL CHLORIDE	100	N.R.	
ACROLEIN (= ACRYLALDEHYDE)	20	-	
ACROLEIN (= ACRYLALDEHYDE)	100	N.R.	
ACRYLAMIDE	50	25	1
ACRYLIC ACID	25	-	
ACRYLIC ACID	100	N.R.	
ACRYLIC LATEX	all	-	
ACRYLONITRILE	100	N.R.	
ADIPIC ACID	all	40	
ADIPONITRILE	all	N.R.	
AIR	100	80	0
ALFOL 810	100	-	
ALKYLAMINOPOLYGLYCOLETHER	all	25	
ALKYLARYL AMMONIUM SALT	all	25	
ALKYLARYL SULFONATE SALTS	all	-	
ALKYLARYL SULFONIC ACID	all	-	
ALKYLBENZENE AMMONIUM SALT	all	25	
ALKYLBENZENE SULFONIC ACID	all	-	
ALKYLNAPHTALENE SULFONIC ACID	all	-	
ALKYLNAPHTOLOPOLYGLYCOLETHER	all	40	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
ALKYLOL SULPHATES AND SALTS	all	25	
ALKYLOLAKOXYLATE	all	25	
ALKYLOLETHERPHOSPHATE	all	25	
ALKYLOLETHERSULPHATE	all	25	
ALKYLPHENOLPOLYGLYCOLETHER	all	25	
ALKYLPHENOLPOLYGLYCOLETHER AND SALTS SULPHATES	all	25	
ALKYLSULFONATE	all	-	
ALKYLSULFONIC ACID AND SULFONATES	all	25	
ALLYL ALCOHOL	100	N.R.	
ALLYL CHLORIDE	all	N.R.	9
ALPHA METHYLSTYRENE	100	N.R.	
ALUM	all	-	0
ALUMINIUM CHLORIDE	all	60	0
ALUMINIUM CHLOROHYDRATE	all	40	0
ALUMINIUM CHLOROHYDROXIDE	50	-	0
ALUMINIUM CITRATE	all	60	0
ALUMINIUM FLUORIDE	all	N.R.	2
ALUMINIUM HYDROXIDE	all	N.R.	2
ALUMINIUM NITRATE	all	60	0
ALUMINIUM POTASSIUM SULPHATE	all	40	0
ALUMINIUM SODIUM SULPHATE	all	40	0
ALUMINIUM SULPHATE	all	40	0
ALUMINIUM SULPHATE/ACETIC ACID	all	-	9
AMINO ACIDS	all	-	
AMINOSULPHONIC ACID	all	40	
AMMONIA (DRY GAS)	100	N.R.	
AMMONIA (WET GAS)	100	N.R.	
AMMONIA, LIQUIFIED GAS	100	N.R.	
AMMONIUM ACETATE	all	-	
AMMONIUM BENZOATE	all	-	
AMMONIUM BICARBONATE	4	N.R.	
AMMONIUM BICARBONATE	Sat'd	N.R.	
AMMONIUM BIFLUORIDE	all	25	2
AMMONIUM BISULPHIDE	all	N.R.	
AMMONIUM BISULPHITE BLACK LIQUOR		-	
AMMONIUM BROMATE	all	40	0
AMMONIUM BROMIDE	all	40	0
AMMONIUM CARBONATE	all	N.R.	2
AMMONIUM CHLORIDE	all	50	0
AMMONIUM CITRATE	all	N.R.	
AMMONIUM FLUORIDE	all	N.R.	2
AMMONIUM HYDROXIDE (AQ. AMMONIA)	1 (= 0.5% NH3)	N.R.	2

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
AMMONIUM HYDROXIDE (AQ. AMMONIA)	5 (= 2.4% NH3)	N.R.	2
AMMONIUM HYDROXIDE (AQ. AMMONIA)	10 (= 5% NH3)	N.R.	2
AMMONIUM HYDROXIDE (AQ. AMMONIA)	41.2 (= 20% NH3)	N.R.	2
AMMONIUM HYDROXIDE (AQ. AMMONIA)	57.6 (= 28% NH3)	N.R.	2
AMMONIUM HYDROXIDE (AQ. AMMONIA)	61.7 (= 30% NH3)	N.R.	2
AMMONIUM LAURYL SULPHATE	all	25	
AMMONIUM LIGNOSULPHONATE	50	-	
AMMONIUM MOLYBDATE	all	N.R.	
AMMONIUM NITRATE	all	50	0
AMMONIUM OXALATE	all	N.R.	
AMMONIUM PENTABORATE	all	25	
AMMONIUM PERSULPHATE	all	-	
AMMONIUM PHOSPHATE, DIBASIC	1	40	0
AMMONIUM PHOSPHATE, DIBASIC	all	N.R.	0
AMMONIUM PHOSPHATE, MONOBASIC	all	N.R.	0
AMMONIUM POLYSULPHIDE	all	N.R.	
AMMONIUM SULPHATE	all	50	0
AMMONIUM SULPHIDE	all	N.R.	
AMMONIUM SULPHITE	all	N.R.	
AMMONIUM THIOCYANATE	20	25	0
AMMONIUM THIOCYANATE	Sat'd	25	
AMMONIUM THIOGLYCOLATE	all	25	
AMMONIUM THIOSULPHATE	all	25	
AMYL ACETATE (N-)	all	25	
AMYL ALCOHOL (SEC-) (= PENTANOL, SEC)	100	40	
AMYL ALCOHOL (TERT-) (= PENTANOL, TERT)	100	40	
AMYL CHLORIDE	all	N.R.	
ANAEROBIC SEWAGE	-	50	
ANILINE	100	N.R.	
ANILINE	all	N.R.	
ANILINE HYDROCHLORIDE	all	25	
ANILINE SULPHATE	all	40	0
ANTIMONY PENTACHLORIDE	all	N.R.	
ANTIMONY TRICHLORIDE	all	40	
AQUA REGIA (HCL : HNO3 = 3 : 1)	all	N.R.	
ARSENIC ACID	all	-	
ARSENIOUS ACID	all	-	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
B			
BARIUM ACETATE	all	60	0
BARIUM BROMIDE	all	60	9
BARIUM CARBONATE	all	-	0
BARIUM CHLORIDE	all	50	0
BARIUM CYANIDE	all	25	2
BARIUM HYDROXIDE	Sat'd	N.R.	2
BARIUM NITRATE	all	40	0
BARIUM SULPHATE	all	40	0
BARIUM SULPHIDE	all	N.R.	
BEER		40	9
BEET SUGAR LIQUOR		60	
BENZALDEHYDE	100	N.R.	
BENZENE	100	35	
BENZENE	vapour	35	
BENZENE SULFONIC ACID	25	-	
BENZENE SULFONIC ACID	50	-	
BENZENE SULFONIC ACID	Sat'd	-	0
BENZENE : ETHYL BENZENE	all	35	
BENZOIC ACID	all	40	
BENZOQUINONES	100	-	
BENZOYL BENZOIC ACID (2-)	all	40	
BENZOYL BENZOIC ACID (4-)	all	40	
BENZYL ALCOHOL (= HYDROXY TOLUENE)	all	N.R.	
BENZYL CHLORIDE	100	N.R.	
BENZYL CHLORIDE	all	N.R.	
BENZYLTRIMETHYLAMMONIUM CHLORIDE	all	-	
BIOCIDES	all	-	9
BLACK LIQUOR (PULP MILL)	all	N.R.	
BLEACH, CHLORINE DIOXIDE, WET	Sat'd	N.R.	5,9
BLEACH, CHLORINE WATER	Sat'd	N.R.	
BLEACH, CHLORITE	10	-	10
BLEACH, HYDROSULPHITE		-	11
BLEACH, LITHIUM HYPOCHLORITE, PH > 11, ACTIVE CHLORINE < 18%		N.R.	2,3,4,5,9
BLEACH, PEROXIDE	Dil.	N.R.	0,4,9,12
BLEACH, SODIUM HYPOCHLORITE, PH > 11, ACTIVE CHLORINE < 18%		N.R.	2,3,4,5,9
BLEACH, CALCIUM HYPOCHLORITE, PH > 11 ACTIVE CHLORINE < 18%		N.R.	2,3,4,5,9
BORAX (SODIUM TETRABORATE)	all	40	0
BORIC ACID	all	40	0

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
BRINE CHLORINATED (SEE CHLORINATED BRINE)			
BRINE, SALT	all	60	0
BROMINE	liquid	N.R.	
BROMINE GAS	dry	N.R.	
BROMINE GAS	wet	N.R.	
BROMINE WATER	5	N.R.	
BUTANEDIOL (1,2-)	all	60	
BUTANEDIOL (1,3-)	all	60	
BUTANEDIOL (1,4-)	all	60	
BUTANEDIOL (2,3-)	all	60	
BUTANOL (N-) (= BUTYL ALCOHOL, N-)	100	N.R.	
BUTANOL (N-) (= BUTYL ALCOHOL, N-)	5	40	
BUTANOL (SEC-) (= BUTYL ALCOHOL, SEC-)	100	N.R.	
BUTANOL (SEC-) (= BUTYL ALCOHOL, SEC-)	5	40	
BUTANOL (TERT-) (= BUTYL ALCOHOL, TERT-)	20	40	
BUTANOL (TERT-) (= BUTYL ALCOHOL, TERT-)	100	N.R.	
BUTOXYDIETHYLENE GLYCOL	100	N.R.	
BUTOXYETHANOL (2-)	20	N.R.	
BUTOXYETHANOL (2-)	100	N.R.	
BUTOXYETHOXYETHANOL (2,2-)	100	N.R.	
BUTYL ACETATE (N-)	100	N.R.	
BUTYL ACETATE (SEC-)	100	N.R.	
BUTYL ACETATE (TERT-)	100	N.R.	
BUTYL ACRYLATE	100	N.R.	
BUTYL AMINE (N-)	40	N.R.	
BUTYL AMINE (N-)	100	N.R.	
BUTYL AMINE (SEC-)	40	N.R.	
BUTYL AMINE (SEC-)	100	N.R.	
BUTYL AMINE (TERT-)	40	N.R.	
BUTYL AMINE (TERT-)	100	N.R.	
BUTYL BENZOATE	100	N.R.	
BUTYL BENZYL PHTHALATE	100	40	
BUTYL CARBITOL	100	-	
BUTYL CELLOSOLVE	100	-	
BUTYL DIGLYCOL	100	N.R.	
BUTYL STEARATE (5% IN MINERAL SPIRITS)		-	
BUTYLALDEHYDE	100	N.R.	
BUTYLENE GLYCOL	100	40	
BUTYLENE GLYCOL	all	40	
BUTYLENE OXIDE	100	N.R.	
BUTYRIC ACID	50	50	
BUTYRIC ACID	85	40	
BUTYRIC ACID	100	-	
C			
CADMIUM CHLORIDE	all	50	0
CALCIUM BISULPHITE	all	-	
CALCIUM BROMIDE	all	50	0
CALCIUM CARBONATE (LIME STONE SLURRY)	Sat'd	N.R.	0
CALCIUM CHLORATE	all	-	0
CALCIUM CHLORIDE	all	50	0
CALCIUM HYDROXIDE (LIME)	Sat'd	N.R.	2,3,9
CALCIUM HYPOCHLORITE, PH > 11, ACTIVE CHLORINE < 18%		N.R.	2,3,4,5,9
CALCIUM NITRATE	all	50	0
CALCIUM SULPHATE	all	50	0
CALCIUM SULPHITE	all	-	
CALGON (SODIUM HEXAMETHAPHOSPHATE)	all	-	
CANE SUGAR LIQUOR & SWEET WATER	all	-	
CAPRIC ACID	100	-	
CAPROLACTAM	50	-	
CAPROLACTAM	100	N.R.	
CAPROLACTONE	100	N.R.	
CAPRYLIC ACID	100	50	
CAPRYLIC ACID	all	50	0
CARBOLIC ACID	1	N.R.	
CARBOLIC ACID	2	N.R.	
CARBOLIC ACID	5	N.R.	
CARBOLIC ACID	> 5	N.R.	
CARBON DIOXIDE GAS, DRY		80	0
CARBON DISULPHIDE	100	N.R.	
CARBON MONOXIDE GAS, DRY		80	0
CARBON TETRACHLORIDE	100	25	
CARBONIC ACID	all	60	
CARBOWAX, POLYETHYLENE GLYCOL	100	60	
CARBOXY ETHYLCELLULOSE	10	-	
CARBOXY METHYLCELLULOSE	all	-	
CASHEW NUT OIL	100	60	
CASTOROIL	100	80	
CAUSTIC (SEE SODIUM HYDROXIDE)			
CERECLOR 42, S-52	all	-	
CHLORIC ACID	conc	N.R.	
CHLORINATED BRINE, PH < 2.5	Sat'd Cl2	N.R.	0
CHLORINATED BRINE, PH 2.5 - 9	Sat'd Cl2	N.R.	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
CHLORINATED BRINE, PH > 9 (HYPOCHLORITE)	Sat'd Cl2	N.R.	2,3,4,5,9
CHLORINATED LIME	all	N.R.	
CHLORINATED WAXES	100	60	
CHLORINATED WAXES	all	60	
CHLORINE	liquid	N.R.	
CHLORINE DIOXIDE, DRY	all	N.R.	5,9
CHLORINE DIOXIDE, WET	Sat'd	N.R.	5,9
CHLORINE GAS, DRY	100	N.R.	0,3,6,7
CHLORINE GAS, WET	100	N.R.	0,3,6,7
CHLORIN/HYDROCHLORIC ACID, WET		N.R.	
CHLOROACETIC ACID	1	-	
CHLOROACETIC ACID	25	-	
CHLOROACETIC ACID	50	N.R.	
CHLOROACETIC ACID	80	N.R.	
CHLOROBENZENE	100	-	
CHLOROCHOLINCHLORIDE	75	50	
CHLOROETHYLENE (1,1,1-)	100	N.R.	
CHLOROFORM	100	N.R.	
CHLOROPARAFFIN	100	60	
CHLOROPROPIONIC ACID (-2)	50	N.R.	
CHLOROPROPIONIC ACID (-2)	all	N.R.	
CHLOROPROPIONIC ACID (-3)	50	N.R.	
CHLOROPROPIONIC ACID (-3)	all	N.R.	
CHLOROPYRIDINE (TETRA)	100	N.R.	
CHLOROSULPHONIC ACID	10	N.R.	
CHLOROSULPHONIC ACID	100	N.R.	
CHLOROTOLUENE	100	N.R.	
CHROME PLATING SOLUTION	-	N.R.	
CHROME PLATING SOLUTION WITH SULPHURIC ACID	-	N.R.	
CHROMIC ACID	1	30	9
CHROMIC ACID	5	30	9
CHROMIC ACID	10	30	9
CHROMIC ACID	20	N.R.	9
CHROMIC ACID	30	N.R.	
CHROMIC SULPHATE	all	60	0
CHROMIC/SULPHURIC ACID	2.5 : 13.7	N.R.	
CHROMIC/SULPHURIC ACID,	10	-	9
MAXIMUM CONCENTRATION MIXTURE			
CHROMOUS SULPHATE	all	40	
CINNAMALDEHYDE	100	N.R.	
CITRIC ACID	50	60	0
CITRIC ACID	100	40	0

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
COBALT CHLORIDE	all	60	
COBALT CITRATE	all	60	
COBALT NITRATE	all	60	
COCONUT FATTY ACID	100	60	
COCONUT OIL	100	80	
COD LIVER OIL	100	80	
COPPER ACETATE	all	60	
COPPER AMMONIUM CHLORIDE	all	60	
COPPER CYANIDE	all	60	0,2
COPPER (I) CHLORIDE	all	60	0
COPPER (I) NITRATE	all	60	0
COPPER (I) SULPHATE	all	60	0
COPPER (II) CHLORIDE	all	60	0
COPPER (II) NITRATE	all	60	0
COPPER (II) SULPHATE	all	60	0
CORN OIL	100	80	
CORN STARCH SLURRY	all	60	
CORN STEEP LIQUOR	all	60	
CORN SUGAR	all	80	
CORN SYRUP	all	80	
COTTONSEED OIL	100	80	
CRESOL (M-)	10	N.R.	
CRESOL (O-)	10	N.R.	
CRESOL (P-)	10	N.R.	
CRESYLIC ACIDS	all	N.R.	9
CRUDEOIL, SOUR AND SWEET	100	80	
CYCLOHEXANE	100	40	
CYCLOHEXANOL	100	40	
CYCLOHEXANONE	100	N.R.	
CYCLOHEXYLAMINE	100	N.R.	
D			
DECALIN	all	-	
DECANES	100	80	
DECANOL (DECYL ALCOHOL)	100	60	
DECENES	100	80	
DEIONISED WATER	100	40	
DEMINERALISED WATER	100	40	
DETERGENTS, SULPHONATED	all	-	
DI 2-ETHYLHEXYL PHOSPHORIC ACID (IN KEROSENE)	20	-	
DIALLYLPHTHALATE	100	80	
DIALLYLPHTHALATE	all	80	
DIAMMONIUM PHOSPHATE	all	-	
DIBROMOPHENOL	100	N.R.	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
DIBROMOPROPANOL	100	N.R.	
DIBROMOPROPANOL	all	N.R.	
DIBUTYL ETHER	100	N.R.	
DIBUTYL PHTHALATE	100	80	
DIBUTYL PHTHALATE	all	80	0
DIBUTYL SEBACATE	all	-	
DIBUTYLAMINE (N-)	100	N.R.	
DICHLOROACETIC ACID	80	N.R.	
DICHLOROBENZENE	100	N.R.	
DICHLOROBENZENE (M-)	100	N.R.	
DICHLOROBENZENE (O-)	100	N.R.	
DICHLOROBENZENE (P-)	100	N.R.	
DICHLOROETHANE (-1,1)	100	N.R.	
DICHLOROETHANE (-1,2) (= DICHLOROETHYLENE)	100	N.R.	
DICHLOROETHENE (= DICHLOROETHYLENE)	100	N.R.	
DICHLOROMETHANE	0,2	N.R.	
DICHLOROMETHANE (= METHYLENE CHLORIDE)	100	N.R.	
DICHLOROPROPANE (-1,1)	100	N.R.	
DICHLOROPROPANE (-1,2)	100	N.R.	
DICHLOROPROPENE	100	N.R.	
DICHLOROPROPIONIC ACID	100	N.R.	
DICHLOROTOLUENE	100	N.R.	
DIESEL FUEL	see fuel		
DIESEL FUEL, NO AROMATICS, NO METHANOL	see fuel		
DIETHANOL AMINE	100	N.R.	
DIETHYL AMINE	40	N.R.	
DIETHYL AMINE	100	N.R.	
DIETHYL ANILINE N,N	100	N.R.	
DIETHYL BENZENE	100	-	
DIETHYL CARBONATE	100	N.R.	
DIETHYL ETHER	100	N.R.	
DIETHYL FORMAMIDE	100	N.R.	
DIETHYL KETONE	100	N.R.	
DIETHYL MALEATE	100	N.R.	
DIETHYL MALEATE	all	N.R.	
DIETHYL PHTALATE	100	60	
DIETHYL SULPHATE	100	-	
DIETHYLENE GLYCOL	100	50	
DIETHYLENE GLYCOL	all	50	0
DIETHYLENE GLYCOL DIMETHYL ETHER	100	N.R.	
DIETHYLENE GLYCOL MONOBUTYL ETHER	100	N.R.	
DIETHYLENETRIAMINE	100	N.R.	
DIISOBUTYL KETONE	100	N.R.	
DIISOBUTYL PHTHALATE	100	60	
DIISOBUTYLENE	100	N.R.	
DIISOPROPANOL AMINE	100	N.R.	
DIISOPROPYL AMINE	all	N.R.	
DIMETHYL ACETAMIDE	100	N.R.	
DIMETHYL AMINE (DMA)	100	N.R.	
DIMETHYL FORMAMIDE (DMF)	100	N.R.	
DIMETHYL PHTHALATE	100	50	
DIMETHYL SULPHATE	100	N.R.	
DIMETHYL SULPHIDE	100	N.R.	
DIMETHYL SULPHOXIDE	20	N.R.	
DIMETHYL SULPHOXIDE	100	N.R.	
DIMETHYL ANILINE (= XYLIDINE)	100	N.R.	
DIMETHYL MORPHOLINE (2,6-)	100	-	
DINONYL PHTHALATE	100	60	
DIOCTYL PHTHALATE	100	60	
DIOCTYLSULFOSUCCINATE SODIUM SALT	all	-	
DIOXANE (1,4-)	all	N.R.	
DIPHENYL ETHER	100	N.R.	
DIPIPERAZINE SULPHATE SOLUTION	all	-	
DIPOTASSIUM HYDROGENPHOSPHATE	0,5	40	0
DIPOTASSIUM HYDROGENPHOSPHATE	10	25	0
DIPROPYLAMINE (N-)	50	N.R.	
DIPROPYLENE GLYCOL	100	60	
DIPROPYLENE GLYCOL	all	60	0
DISODIUM HYDROGENPHOSPHATE	0.5	60	0
DISODIUM HYDROGENPHOSPHATE	10	40	0
DISPERSIONS, COPOLYMER VINYL ACETATE/ VINYL VERSATATE	50	-	
DIVINYL BENZENE	100	N.R.	
DODECANOL	100	60	
DODECENE	100	60	
DODECYL BENZENE SULPHONIC ACID	all	40	
DODECYL GUANIDINE HYDROCHLORIDE	all	40	
DOWANOL DB GLYCOLETHER	all	N.R.	
E			
EMBALMING FLUID	100	-	
EPICHLOROHYDRIN	100	N.R.	
EPOXIDISED VEGETABLE OILS	100	60	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
EPOXIDIZED CASTOR OIL	100	60	
EPOXIDIZED SOYBEAN OIL	100	50	
EPOXY RESINS - EPIKOTE 828	100	-	24
ESTERS, FATTY ACID	100	60	
ETHANOL (= ETHYL ALCOHOL)	1	40	
ETHANOL (= ETHYL ALCOHOL)	10	40	
ETHANOL (= ETHYL ALCOHOL)	20	40	
ETHANOL (= ETHYL ALCOHOL)	50	N.R.	
ETHANOL (= ETHYL ALCOHOL)	96	N.R.	
ETHANOL (= ETHYL ALCOHOL)	100	N.R.	
ETHANOL AMINE	100	N.R.	
ETHYL ACETATE	100	N.R.	
ETHYL ACRYLATE	100	N.R.	
ETHYL AMINE	40	N.R.	
ETHYL BENZENE	100	N.R.	
ETHYL BROMIDE	100	N.R.	
ETHYL CHLORIDE	100	N.R.	
ETHYL CHLOROHYDRIN	100	N.R.	
ETHYL ETHER	100	N.R.	
ETHYL SULPHATE	100	N.R.	
ETHYLENE CHLORIDE (= 1,2-DICHLOROETHANE)	100	N.R.	
ETHYLENE CHLOROHYDRIN	100	-	
ETHYLENE DIAMINETETRAACETIC ACID, EDTA	all	-	
ETHYLENE DIBROMIDE	100	N.R.	
ETHYLENE DICHLORIDE	100	N.R.	
ETHYLENE GLYCOL	100	60	
ETHYLENE GLYCOL	all	60	0
ETHYLENE GLYCOL MONOBUTYL ETHER	100	N.R.	
ETHYLENE OXIDE	100	N.R.	
ETHYLHEXANOL (2-)	all	60	
ETHYLHEXYLACRYLAT (-2)	100	N.R.	
EUCALYPTUS OIL	100	60	
F			
FATTY ACID ESTERS	100	80	
FATTY ACIDS (C12 OR HIGHER)	all	80	
FERRIC ACETATE	all	60	0
FERRIC CHLORIDE (III)	all	60	0
FERRIC CHLORIDE : FERRIC SULPHATE	all	60	0
FERRIC CHLORIDE : FERROUS CHLORIDE	5.0 : 20	60	0
FERRIC CHLORIDE : FERROUS CHLORIDE : HYDROCHLORIC ACID	48 : 0.2 : 0.2	50	0,8
FERRIC CHLORIDE : HYDROCHLORIC ACID	29 : 18	30	0,6,7,8,29

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
FERRIC NITRATE	all	60	0
FERRIC SULPHATE	all	60	0
FERRIC SULPHATE : SULPHURIC ACID	Sat'd : 10	60	
FERROUS CHLORIDE (II)	all	60	0
FERROUS CHLORIDE : FERRIC CHLORIDE	20 : 5.0	60	0
FERROUS CHLORIDE : HYDROCHLORIC ACID	see HCl		
FERROUS NITRATE	all	60	0
FERROUS SULPHATE	all	60	0
FERROUS SULPHATE : MAGNESIUM OXIDE		-	0
FERTILISER UREA		-	23
FERTILISER, 8-8-8		-	22
FERTILIZER, UREA AMMONIUM CONT'D 35.4% UREA		25	
FLUE GAS, DRY	100	-	0
FLUE GAS, WET	100	-	0
FLUE GAS, WET (TRACES HCL)	100	N.R.	8
FLUE GAS, WET (TRACES HF)	100	N.R.	2
FLUOBORIC ACID	10	N.R.	0,2,9
FLUOBORIC ACID	15	N.R.	0,2,9
FLUOBORIC ACID	25	N.R.	2
FLUOBORIC ACID	Sat'd	N.R.	2,9
FLUORIDE SALTS : HYDROCHLORIC ACID	30 : 10	N.R.	2,8
FLUORINE GAS		N.R.	2,9
FLUOROCARBON 11	100	N.R.	
FLUOSILICIC ACID	10	N.R.	2,3,9
FLUOSILICIC ACID	25	N.R.	2,3,9
FLUOSILICIC ACID	35	N.R.	2,3,9
FLUOSILICIC ACID	fumes	N.R.	2,3,9
FORMALDEHYDE	50	40	
FORMAMIDE	100	N.R.	
FORMIC ACID	10	50	
FORMIC ACID	30	40	
FORMIC ACID	50	N.R.	8
FORMIC ACID	85	N.R.	8
FORMIC ACID	98	N.R.	
FREON 11	100	N.R.	
FUEL = BIODIESEL (MAX 5.75% METHYLESTER)	100	80	
FUEL = BIODIESEL (NO METHANOL)	100	60	0
FUEL = DIESEL	100	80	
FUEL = DIESEL, NO AROMATICS, NO METHANOL	100	80	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
FUEL = GASOLINE LEADED	100	-	
FUEL = GASOLINE NO LEAD, NO METHANOL	100	-	
FUEL = GASOLINE : MTBE	85 : 15	-	
FUEL = JET FUEL, GENERAL	100	60	
FUEL = KEROSINE	100	80	
FUEL C (50 : 50 ISOOCTANE : TOLUENE)	100	-	
FUEL C : MTBE	85 : 15	-	
FUEL OIL, NO AROMATICS, NO METHANOL	100	60	
FURFURAL	5	-	
FURFURAL	20	-	
FURFURAL	100	N.R.	
FURFURYL ALCOHOL	100	N.R.	
G			
GALLIC ACID	all	60	
GASOLINE FUEL	see fuel		9
GLUCONIC ACID	50	25	
GLUCOSE	all	60	0
GLUTARALDEHYDE	50	N.R.	
GLUTARIC ACID	all	40	
GLYCERINE	100	60	
GLYCERINE TRIACETATE	all	-	
GLYCOLIC ACID	35	40	
GLYCOLIC ACID	70	-	
GLYME		N.R.	
GLYOXAL	40	N.R.	
GREEN LIQUOR (PULP MILL)		-	0,9
GYPSUM SLURRY : PHOSPHORIC ACID :		35	2,9
FLUORINE WATER			
H			
HEAVY AROMATIC NAPHTA (HAN)	100	45	
HEPTANE	100	80	
HEPTENE	100	80	
HEXACHLOROCYCLOPENTADIENE	100	-	
HEXACHLOROETHANE	100	N.R.	
HEXAMETHYLENETETRAMINE	60	-	
HEXANE	100	60	
HEXANEDIOL	100	60	
HEXANEDIOL	all	60	
HEXENE	100	60	
HEXENE (2-)	100	60	
HEXENE (2-TRANS-)	100	60	
HEXENE (3-TRANS-)	100	60	
HYDRAULIC FLUID, ALKALINE	100	25	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
HYDRAULIC FLUID, NEUTRAL	100	60	
HYDRAZINE	50	N.R.	
HYDRAZINE	100	N.R.	
HYDRAZINE HYDRATE	16	-	
HYDROBROMIC ACID	1	55	0,8
HYDROBROMIC ACID	10	55	0,8
HYDROBROMIC ACID	18	40	0,8
HYDROBROMIC ACID	26	N.R.	8,9
HYDROBROMIC ACID	48	N.R.	8,9
HYDROBROMIC ACID	62	N.R.	8,9
HYDROCHLORIC ACID	0.01-1	55	0,7,8,29
HYDROCHLORIC ACID	5	55	0,7,8,29
HYDROCHLORIC ACID	10	55	0,7,8,29
HYDROCHLORIC ACID	15	50	0,7,8,29
HYDROCHLORIC ACID	18	40	0,6,7,8,29
HYDROCHLORIC ACID	20	N.R.	0,6,7,8,29
HYDROCHLORIC ACID	21	N.R.	0,6,7,8,29
HYDROCHLORIC ACID	25	N.R.	6,7,8,9,29
HYDROCHLORIC ACID	26	N.R.	6,7,8,9,29
HYDROCHLORIC ACID	32	N.R.	6,7,8,9,30
HYDROCHLORIC ACID	35	N.R.	6,7,8,9,30
HYDROCHLORIC ACID	37	N.R.	6,7,8,9,30
HYDROCHLORIC ACID	fumes	-	0,6,7,8,9
HYDROCHLORIC ACID AND ORGANICS		N.R.	6,8,9
HYDROCHLORIC, SULPHURIC AND ACETIC ACID		N.R.	6,8,9
HYDROCYANIC ACID	10	55	0,9
HYDROFLUORIC ACID	1	40	2,3,9
HYDROFLUORIC ACID	10	40	2,3,9
HYDROFLUORIC ACID	20	N.R.	2,3,9
HYDROFLUORIC ACID	30	N.R.	
HYDROFLUOSILICIC ACID	10	-	2,9
HYDROFLUOSILICIC ACID	25	-	2,9
HYDROFLUOSILICIC ACID	35	-	2,9
HYDROFLUOSILICIC ACID	fumes	-	2,9
HYDROGEN BROMIDE GAS, DRY	all	-	9
HYDROGEN BROMIDE GAS, WET	all	-	0,9
HYDROGEN CHLORIDE GAS, DRY	all	-	0,8,9
HYDROGEN CHLORIDE GAS, WET	all	-	0,8,9
HYDROGEN FLUORIDE GAS, DRY	all	-	9
HYDROGEN FLUORIDE GAS, WET	all	-	9
HYDROGEN PEROXIDE	5	-	3,4
HYDROGEN PEROXIDE	30	-	3,4
HYDROGEN SULPHIDE, GAS	5	60	0

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
HYDROGEN SULPHIDE, GAS	100	60	0
HYDROXYACETIC ACID	35	-	
HYDROXYACETIC ACID	70	N.R.	
HYDROXYBENZENESULFONIC ACID	all	40	
HYPOCHLOROUS ACID	0-10	N.R.	3,4,9
HYPOCHLOROUS ACID	20	N.R.	3,4,9
HYPOCHLOROUS ACID	50	N.R.	3,4,9
HYPOPHOSPHOROUS ACID	50	N.R.	9
I			
IODINE	cristals	60	
IODINE	vapour	60	
ISOAMYL ALCOHOL (= ISOBUTYLCARBINOL)	100	25	
ISOBUTANOL (= ISOBUTYL ALCOHOL)	5	40	
ISOBUTANOL (= ISOBUTYL ALCOHOL)	100	30	
ISODECANOL	100	40	
ISONONYL ALCOHOL	100	40	
ISOOCTYL ADIPATE	100	-	
ISOOCTYL ALCOHOL	100	40	
ISOPROPANOL (= ISOPROPYL ALCOHOL)	20	40	
ISOPROPANOL (= ISOPROPYL ALCOHOL)	100	25	
ISOPROPYL MYRISTATE	100	60	
ISOPROPYL PALMITATE	100	60	0
ISOPROPYL PALMITATE	all	60	0
ISOPROPYL SULPHATE	all	25	
ISOPROPYLAMINE	40	N.R.	
ISOPROPYLAMINE	100	N.R.	
ITACONIC ACID	40	40	
ITACONIC ACID	Sat'd	30	
J			
JET FUEL	see fuel		
JOJOBA OIL	100	60	
K			
KEROSENE	see fuel		
L			
LACTIC ACID	10	60	
LACTIC ACID	80	25	
LATEX, ALKALINE	all	N.R.	
LATEX, PAINT EMULSION	all	25	
LATEX, PVA EMULSION	all	25	
LATEX, RUBBER EMULSION	all	25	
LAURIC ACID	100	60	
LAUROYL ALCOHOL	all	60	
LAUROYL CHLORIDE	all	50	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
LAURYL ALCOHOL	all	60	
LAURYL CHLORIDE	all	50	
LAURYL ETHER SULPHATE	all	50	
LAURYL MERCAPTAN	all	60	
LEAD ACETATE	all	60	
LEAD CHLORIDE	all	60	0
LEAD NITRATE	all	60	0
LEVULINIC ACID	all	60	
LIGNIN SULPHATE, PH 3-7	all	60	
LIGNINSULFONATE SODIUM SALT	all	60	
LIME (CALCIUM HYDROXIDE)	Sat'd	N.R.	2,3,5,9
LIME STONE SLURRY (CALCIUM CARBONATE)	Sat'd	N.R.	0
LINOLEIC ACID	100	60	
LINOLENIC ACID	100	60	
LINSEED OIL	100	80	
LIQUID SUGAR	all	80	
LITHIUM BROMIDE	all	60	0
LITHIUM CARBONATE	1	50	0,2
LITHIUM CARBONATE	Sat'd	40	0,2
LITHIUM CHLORIDE	all	80	0
LITHIUM HYDROXIDE	Sat'd	N.R.	2
LITHIUM HYPOCHLORITE, PH > 11,		N.R.	2,3,4,5,9
ACTIVE CHLORINE < 18%			
LITHIUM SULPHATE	all	80	0
M			
MAGNESIUM BICARBONATE	all	40	
MAGNESIUM BISULPHITE	all	40	
MAGNESIUM CARBONATE	Sat'd	50	0,2
MAGNESIUM CHLORIDE	all	70	0
MAGNESIUM FLUOSILICATE	37.5	-	2
MAGNESIUM HYDROXIDE	Sat'd	N.R.	0,2
MAGNESIUM NITRATE	all	60	0
MAGNESIUM SILICOFLUORIDE	37.5	40	2
MAGNESIUM SULPHATE	all	50	0
MALEIC ACID	all	60	0
MALEIC ANHYDRIDE	100	60	
MANGANESE SULPHATE/ SULPHURIC ACID	90 : 10	60	0
MANGANESE(II) CHLORIDE	all	60	0
MANGANESE(II) NITRATE	all	60	0
MANGANOUS SULPHATE	all	60	0
MAPLE SYRUP	all	80	
MELAMINE RESINS	all	N.R.	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
MERCAPTOACETIC ACID	all	N.R.	
MERCAPTOPROPIONIC -2	10	60	
MERCURIC CHLORIDE	all	60	0
MERCURIC NITRATE	all	60	0
MERCUROUS CHLORIDE (MERCURIC (I) CHLORIDE)	all	60	0
MERCURY (QUICK SILVER)	100	60	
METHACRYLIC ACID	40	-	
METHANE : NITROGEN	70 : 30	60	
METHANESULPHONIC ACID	all	N.R.	
METHANOL (= METHYL ALCOHOL)	5	30	
METHANOL (= METHYL ALCOHOL)	100	N.R.	
METHOXYETHYLACETATE	100	N.R.	
METHYL BROMIDE, GAS	10	N.R.	
METHYL ETHYL KETONE	100	N.R.	
METHYL ISOBUTYL KETONE	100	N.R.	
METHYL METHACRYLATE	100	N.R.	
METHYL METHACRYLATE	all	N.R.	
METHYL-2-PENTANEDIOL-2,4	100	40	
METHYLAMINE	40	N.R.	
METHYLAMINE	100	N.R.	
METHYLANILINE	100	N.R.	
METHYLCELLOSOLVE	100	N.R.	
METHYLCHLOROPHENOXYACETIC ACID (MCPA)	100	25	
METHYLCHLOROPHENOXYPROPIONIC ACID (MCPP)	100	25	
METHYLDIETHANOLAMINE	100	-	
METHYLENE BROMIDE	100	N.R.	
METHYLENE CHLORIDE (= DICHLOROMETHANE)	0.2	N.R.	
METHYLENE CHLORIDE (= DICHLOROMETHANE)	100	N.R.	
METHYLENEBLUE SALTS PH 2-5.5, AQ	all	25	
METHYLPENTANOL (2-)	100	40	
METHYLSTYRENE	100	N.R.	
MILK AND MILK PRODUCTS	all	60	9
MINERAL OILS	100	60	
MOLASSES & INVERT MOLASSES (2 < PH < 9)	100	80	
MOLYBDIC ACID	Sat'd	-	9
MONOCHLOROACETIC ACID	50	N.R.	
MONOCHLOROACETIC ACID	80	N.R.	
MONOCHLOROACETIC ACID	100	N.R.	
MONOCHLOROBENZENE	100	N.R.	
MONOETHANOL AMINE	100	N.R.	
MONOMETHYLHYDRAZINE	100	N.R.	
MORPHOLINE	100	N.R.	
MOTOR OIL	100	80	
MURIATIC ACID (= HYDROCHLORIC ACID)	see HCl		
MUSTARD	all	80	9
MYRISTIC ACID	100	80	
N			
NAPHTA HEAVY AROMATIC	100	45	
NAPHTA, ALIPHATIC	100	80	
NAPHTALENE	all	60	
NAPHTENOIC ACID (1-)	all	60	0
NAPHTENOIC ACID (2-)	all	60	0
NAPHTHYLAMINE-1-SULPHONIC ACID (2-)	all	-	0,9
NEOPENTYL GLYCOL	100	60	
NEOPENTY LGLYCOL	all	60	
NICKEL CHLORIDE	all	80	0
NICKEL NITRATE	all	80	0
NICKEL SULPHATE	all	80	0
NICOTINIC ACID	all	30	
NITRIC ACID	2	40	0,8
NITRIC ACID	5	30	0,8,9
NITRIC ACID	10	N.R.	8,9
NITRIC ACID	15	N.R.	8,9
NITRIC ACID	20	N.R.	8,9
NITRIC ACID	25	N.R.	8,9
NITRIC ACID	30	N.R.	8,9
NITRIC ACID	35	N.R.	8,9
NITRIC ACID	40	N.R.	8,9
NITRIC ACID	50	N.R.	8,9
NITRIC ACID	60	N.R.	
NITRIC ACID	fumes	-	8,9
NITRIC ACID : CHROMIC ACID	15 : 3	N.R.	9
NITROBENZENE	100	N.R.	
NITROGEN	100	80	0
NITROGEN TETROXIDE	100	N.R.	
NITROUS ACID	10	-	9
N-METHYL-2-PYRROLIDONE (NMP)	3	-	
N-METHYL-2-PYRROLIDONE (NMP)	100	N.R.	
NONANES	100	80	
NONENES	100	80	
O			
OCTANE	100	80	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
OCTANOIC ACID (SEE CAPRYLIC ACID)	100	80	
OCTANOIC ACID (SEE CAPRYLIC ACID)	all	80	
OCTANOL (1-) (= OCTYL ALCOHOL, 1-)	100	60	
OCTANOL (2-) (= OCTYL ALCOHOL, 2-)	100	60	
OCTENE	100	80	
OCTYLAMINE (2-)	100	-	
OCTYLAMINE (N-)	100	-	
OCTYLAMINE (TERT-)	100	-	
OIL, SOUR AND SWEET CRUDE	100	80	
OILS (GREASE, LUBE, VEGETABLE)	100	80	
OLEIC ACID	100	80	
OLEUM (FUMING SULPHURIC ACID)		N.R.	
OLIVE OIL	100	80	
ORANGE OIL	100	80	
OXALIC ACID	20	60	0
OXALIC ACID	Sat'd	60	0
OZONE IN SOLUTION 2 MG/L	all	N.R.	9
P			
PALM OIL	100	80	
PALMITIC ACID	100	80	
PALMITOYL CHLORIDE	all	-	
PAPER MILL EFFLUENT		-	9
PARAFFIN WAX	100	60	
PEANUT OIL	100	80	
PENTACHLOROETHANE	100	N.R.	
PENTANE	100	35	
PENTANEDIOIC ACID	all	40	
PENTANOL (= AMYL ALCOHOL)	100	40	
PENTASODIUM TRIPHOSPHATE ($Na_5O_{10}P_3$)	all	40	0
PENTENE	100	30	
PERACETIC ACID	20	N.R.	2,3,4,9
PERACETIC ACID	35	N.R.	
PERACETIC ACID : ACETIC ACID : HYDROGEN PEROXIDE : WATER	23 : 20 : 15 : 42	N.R.	3,4,7,9
PERCHLORIC ACID	10	40	9
PERCHLORIC ACID	20	-	9
PERCHLORIC ACID	30	N.R.	9
PERCHLORIC ACID	70	N.R.	
PERCHLOROETHYLENE	100	40	
PEROXIDE BLEACH	diluted	-	0,4,9,12
PHENOL (CARBOLIC ACID)	1	-	3
PHENOL (CARBOLIC ACID)	2	N.R.	3
PHENOL (CARBOLIC ACID)	5	N.R.	3
PHENOL (CARBOLIC ACID)	> 5	N.R.	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
PHENOLFORMALDEHYDE RESIN	all	-	
PHENOLSULPHONIC ACID	all	N.R.	
PHOSPHORIC ACID	50	60	0
PHOSPHORIC ACID	80	60	0,28
PHOSPHORIC ACID	85	60	0,28
PHOSPHORIC ACID	95	50	0,28
PHOSPHORIC ACID	105	40	0,28
PHOSPHORIC ACID	115	40	0,28
PHOSPHORIC ACID (SUPER PHOSPHORIC ACID)	105	40	0,28
PHOSPHORIC ACID (POLY PHOSPHORIC ACID)	115	40	0,28
PHOSPHOROUS ACID (H_3PO_3)	70	N.R.	
PHOSPHOROUS TRICHLORIDE	100	N.R.	
PHOSSY WATER		-	9
PHTHALATES/PHTHALATE ESTERS	all	60	
PHTHALIC ACID	100	80	
PHTHALIC ACID	all	80	0
PHTHALIC ANHYDRIDE	100	80	
PHTHALIC ANHYDRIDE	all	80	0
PICRIC ACID	10	-	
PINE OIL	100	80	
PINE OIL DISINFECTANT	100	-	
PIPERAZINE DIHYDROCHLORIDE	all	-	
PLATING SOLUTION, CADMIUM		N.R.	2,13
PLATING SOLUTION, CHROME		N.R.	1,9,14
PLATING SOLUTION, COPPER		-	
PLATING SOLUTION, GOLD		-	0,15
PLATING SOLUTION, LEAD		-	0,2,16
PLATING SOLUTION, NICKEL		-	0,17,18
PLATING SOLUTION, PLATINUM		-	0,9
PLATING SOLUTION, SILVER		-	0,2,19
PLATING SOLUTION, TIN FLUOBORATE		-	0,2,20
PLATING SOLUTION, ZINC FLUOBORATE		-	0,2,9,21
PLURONIC SURFACTANT 25R-2	all	60	
POLYACRYLAMIDE	all	N.R.	
POLYESTER RESINS (STYRENATED)	100	45	3
POLYETHYLENE GLYCOL	100	80	0
POLYETHYLENE GLYCOL	all	80	0
POLYMERIC PHOSPHORIC ACID	115	N.R.	0,28
POLYOLS	100	60	
POLYOLS	all	60	
POLYPHOSPHORIC ACID	115	-	0,28
POLYVINYL ACETATE EMULSION	all	40	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
POLYVINYL ALCOHOL	all	60	
POTASSIUM ALUMINIUM SULPHATE	all	60	0
POTASSIUM AMYL XANTHATE	5	-	9
POTASSIUM BICARBONATE	all	-	
POTASSIUM BROMATE	all	60	0
POTASSIUM BROMIDE	all	60	0
POTASSIUM CARBONATE	10	N.R.	2
POTASSIUM CARBONATE	Sat'd	N.R.	2
POTASSIUM CHLORATE	all	60	0
POTASSIUM CHLORIDE	all	80	0
POTASSIUM CHROMATE	all	80	
POTASSIUM CYANIDE	all	40	2
POTASSIUM DICHROMATE	all	60	
POTASSIUM DIHYDROGENPHOSPHATE	all	60	0
POTASSIUM FERRICYANIDE	all	60	0
POTASSIUM FERROCYANIDE	all	60	0
POTASSIUM FLUORIDE	all	40	2
POTASSIUM GOLD CYANIDE	12	-	
POTASSIUM HYDROXIDE	1	N.R.	2,3,9
POTASSIUM HYDROXIDE	10	N.R.	2,3,9
POTASSIUM HYDROXIDE	25	N.R.	2,3,9
POTASSIUM HYDROXIDE	Sat'd	N.R.	2,3,9
POTASSIUM IODIDE	all	40	
POTASSIUM NITRATE	all	60	0
POTASSIUM NITRITE	all	60	0
POTASSIUM ORTHOPHOSPHATE, TRIBASIC ($K_3O_4P.12H_2O$)	0.03	N.R.	
POTASSIUM ORTHOPHOSPHATE, TRIBASIC ($K_3O_4P.12H_2O$)	all	N.R.	2
POTASSIUM OXALATE	all	60	
POTASSIUM PERMANGANATE	all	60	0
POTASSIUM PERSULPHATE	all	60	0
POTASSIUM PYROPHOSPHATE	60	60	0
POTASSIUM SILICOFLUORIDE	all	25	2
POTASSIUM SULPHATE	all	80	0
PROPANOL (1-) (= PROPYL ALCOHOL, 1-)	20	60	
PROPANOL (1-) (= PROPYL ALCOHOL, 1-)	100	25	
PROPANOL (2-) (= PROPYL ALCOHOL, 2-)	20	60	
PROPANOL (2-) (= PROPYL ALCOHOL, 2-)	100	25	
PROPIONIC ACID	40	40	
PROPIONIC ACID	100	N.R.	
PROPYLAMINE (N-)	40	N.R.	
PROPYLAMINE (N-)	100	N.R.	
PROPYLENE GLYCOL	all	60	0

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
PYRIDINE	100	N.R.	
Q			
QUARTERNARY AMMONIUM SALTS	25	60	
R			
RAYON SPIN BATH		-	
REF. FUEL C (ISOOCTANE/TOLUENE)	100	-	
RENEX DETERGENTS	all	-	
ROSIN SIZES		60	
S			
SALICYLALDEHYDE	100	N.R.	
SALICYLIC ACID	all	40	
SALT BRINE (SEE SODIUM CHLORIDE)	all	65	0
SEA WATER		65	0
SELENIOUS ACID	all	60	
SEWAGE MUNICIPAL	all	-	9
SILICONE OILS OR GREASES	100	60	
SILVER CYANIDE	all	60	0
SILVER NITRATE	all	80	0
SOAPS	all	N.R.	
SODIUM ACETATE	all	60	0
SODIUM ALKYLARYL SULPHONATE	all	N.R.	
SODIUM ALUMINATE	all	N.R.	2
SODIUM BENZOATE	all	40	
SODIUM BICARBONATE	all	30	
SODIUM BICARBONATE : SODIUM CARBONATE	15 : 02	30	2
SODIUM BIFLUORIDE	all	40	2
SODIUM BISULPHATE	all	60	0
SODIUM BISULPHITE	all	40	0
SODIUM BORATE	all	60	0
SODIUM BOROHYDRIDE : SODIUM HYDROXIDE	12 : 48	N.R.	2,9
SODIUM BROMATE	all	60	0
SODIUM BROMIDE	all	60	0
SODIUM BROMIDE : SODIUM BROMATE	20 : 20	60	0
SODIUM BUTYL XANTHANE	5	-	
SODIUM CARBONATE	10	N.R.	2
SODIUM CARBONATE	Sat'd	N.R.	2
SODIUM CHLORATE	all	40	0
SODIUM CHLORATE : SODIUM CHLORIDE	34 : 20	-	
SODIUM CHLORIDE (= SALT BRINE)	all	65	0
SODIUM CHLORIDE WITH CHLORINE PH > 9	see chlorinated brine		

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
SODIUM CHLORIDE WITH CHLORINE PH 2.5 > 9	see chlorinated brine		
SODIUM CHLORIDE PH > 2.5, CL2 SAT'D	see chlorinated brine		
SODIUM CHLORIDE/ SODIUM HYDROXIDE	0.5 : 10/0.1 : 2	N.R.	2,3,9
SODIUM CHLORITE	10	40	
SODIUM CHLORITE	50	25	
SODIUM CHLORITE, PH < 6 (SEE CHLORINE DIOXIDE)		-	
SODIUM CHLORITE, PH > 6	all	-	5
SODIUM CHLORITE : SODIUM HYPOCHLORITE PH > 11	0.1-25 : 0.1-15	-	2,3,4
SODIUM CHROMATE	50	60	0
SODIUM CYANIDE	5	60	0,2
SODIUM CYANIDE	10	60	2
SODIUM CYANIDE	15	40	2
SODIUM DICHROMATE	all	40	
SODIUM DIHYDROGENPHOSPHATE	all	40	0
SODIUM DIPHOSPHATE	all	40	0
SODIUM DODECYLBENZENE SULPHONATE	all	-	
SODIUM ETHYL XANTHATE	5	-	9
SODIUM FERRIC CYANIDE	all	60	0
SODIUM FERRO CYANIDE	all	60	0
SODIUM FLUORIDE	all	40	2
SODIUM FLUOROSILICATE	all	25	2
SODIUM HEXAMETAPHOSPHATE	all	40	
SODIUM HYDROSULPHIDE	all	N.R.	
SODIUM HYDROSULPHITE	all	N.R.	
SODIUM HYDROXIDE	1	N.R.	2,3,9
SODIUM HYDROXIDE	5	N.R.	2,3,9
SODIUM HYDROXIDE	25	N.R.	2,3,9
SODIUM HYDROXIDE	50	N.R.	2,3,9
SODIUM HYDROXIDE - CHLORINE GAS		N.R.	9
SODIUM HYPOCHLORITE, PH > 11, ACTIVE CHLORINE < 18%		N.R.	2,3,4,5,9
SODIUM LAURYL SULPHATE	all	-	
SODIUM MONOPHOSPHATE	0.5	60	0
SODIUM MONOPHOSPHATE	10	40	0
SODIUM NITRATE	all	60	0
SODIUM NITRITE	all	60	0
SODIUM ORTHOPHOSPHATE, TRIBASIC (NA3O4P.12H2O)	0.03	N.R.	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
SODIUM ORTHOPHOSPHATE, TRIBASIC (NA3O4P.12H2O)	all	N.R.	2
SODIUM OXALATE	all	60	
SODIUM PERSULPHATE	all	25	9
SODIUM POLYACRYLATE	all	-	
SODIUM SILICATE (WATER GLASS)	all	N.R.	2
SODIUM SULPHATE	all	60	0
SODIUM SULPHHYDRATE	all	-	
SODIUM SULPHIDE	all	60	0
SODIUM SULPHITE	all	60	
SODIUM TARTRATE	all	60	
SODIUM TETRABORATE	all	60	0
SODIUM THIOCYANATE	all	60	0
SODIUM THIOSULPHATE	all	60	0
SODIUM TRIDECYLSULPHATE	all	60	0
SODIUM TRIPHOSPHATE (NA5O10P3)	all	60	0
SODIUM XYLENE SULPHONATE	all	-	0
SORBITOL SOLUTIONS	all	60	0
SOY SAUCE		40	9
SOYA OIL (SOYBEAN OIL)	100	80	
SPAN SURFACTANT	all	-	9,25
SPEARMINT OIL	100	80	
STANNIC CHLORIDE	all	80	0
STANNOUS CHLORIDE	all	80	0
STANNOUS SULPHATE	all	80	0
STARCH 4 < PH < 9	all	80	0
STEARIC ACID	all	80	
STYRENE	100	45	3
SUCCINIC ACID	all	60	
SUCCINONITRIL (AQUEOUS)	all	60	
SUCROSE	all	80	0
SULPHAMIC ACID	10	-	0
SULPHAMIC ACID	25	-	
SULPHANILIC ACID	all	60	0
SULPHATED DETERGENTS	all	60	
SULPHITE/SULPHATE LIQUORS (PULP MILL)		-	9
SULPHONATED DETERGENTS	all	60	
SULPHONYL CHLORIDE, AROMATIC	all	N.R.	
SULPHUR	100	-	0
SULPHUR CHLORIDE	all	N.R.	
SULPHUR DICHLORIDE	all	N.R.	
SULPHUR DIOXIDE GAS, DRY	all	60	
SULPHUR DIOXIDE GAS, WET	all	60	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
SULPHUR TRIOXIDE GAS		N.R.	9
SULPHURIC ACID	1	60	0,8
SULPHURIC ACID	5	60	0,8
SULPHURIC ACID	10	60	0,8
SULPHURIC ACID	25	50	0,8
SULPHURIC ACID	50	40	0,8
SULPHURIC ACID	60	-	8,9
SULPHURIC ACID	70	-	8,9
SULPHURIC ACID	75	N.R.	3,8,9
SULPHURIC ACID	80	N.R.	3,8,9
SULPHURIC ACID	93	N.R.	
SULPHURIC ACID (= OLEUM)	Fuming	N.R.	
SULPHURIC ACID : FERROUS SULPHATE	10 : Sat'd	60	0
SULPHURIC ACID : PHOSPHORIC ACID	10 : 20	40	
SULPHUROUS ACID	10	N.R.	9
SULPHURYL CHLORIDE	100	N.R.	
SUPERPHOSPHORIC ACID (105% H_3PO_4)	105	40	0,28
T			
TALL OIL	all	60	0
TANNIC ACID	all	80	
TARTARIC ACID	all	80	0
TETRACHLOROETHANE (-1,1,1,2)	100	N.R.	
TETRACHLOROETHANE (-1,1,2,2)	100	N.R.	
TETRACHLOROETHENE (PERCHLOROETHENE)	100	20	
TETRACHLOROMETHANE	100	N.R.	
TETRACHLOROPENTANE	100	N.R.	
TETRACHLOROPYRIDINE	100	N.R.	
TETRAPOTASSIUM PYROPHOSPHATE	5	60	0
TETRAPOTASSIUM PYROPHOSPHATE	60	-	
TETRASODIUM ETHYLENEDIAMINETETRAACETATE	all	40	
TETRASODIUM PYROPHOSPHATE	5	60	0
TETRASODIUM PYROPHOSPHATE	60	-	
THF (TETRAHYDROFURAN)	5	-	
THF (TETRAHYDROFURAN)	100	N.R.	
THIOGLYCOLIC ACID	10	-	3
THIOGLYCOLIC ACID	80	N.R.	3
THIOGLYCOLIC ACID	100	N.R.	3
THIONYL CHLORIDE	100	N.R.	
TOBIAS ACID (2-NAPHTHYLAMINE - 1- SULPHONIC)	all	-	0,9
TOLUENE	100	50	3
TOLUENE DIISOCYANATE	100	N.R.	3
TOLUENE SULPHONIC ACID	50	-	0
TOLUENE SULPHONIC ACID	Sat'd	N.R.	0
TOLUIDINE (1,2-)	100	N.R.	
TOLUIDINE (1,3-)	100	N.R.	
TOLUIDINE (1,4-)	100	N.R.	
TRANSFORMER OILS	100	80	
TRI-(2-CHLOROETHYL) PHOSPHATE	all	-	
TRIBUTYL PHOSPHATE	100	40	
TRIBUTYLAMINE -N	all	N.R.	
TRICHLOROACETALDEHYDE	100	N.R.	
TRICHLOROACETIC ACID	50	-	0
TRICHLOROBENZENE	100	N.R.	
TRICHLOROETHANE (-1,1,1)	100	N.R.	
TRICHLOROETHANE (-1,1,2)	100	N.R.	
TRICHLOROETHENE	100	N.R.	
TRICHLOROMONOFLUORMETHANE	100	N.R.	
TRICHLOROPHENOL	100	N.R.	
TRICRESYL PHOSPHATE	100	-	
TRIDECYLBENZENE SULPHONATE	all	-	0
TRIETHANOL AMINE	100	N.R.	
TRIETHANOL AMINE LAURYL SULPHATE	all	-	9
TRIETHYL AMINE	40	N.R.	
TRIETHYL AMINE	100	N.R.	
TRIETHYLENE GLYCOL	all	60	0
TRIMETHYL AMINE	all	N.R.	
TRIMETHYL AMINE HYDROCHLORIDE	Sat'd	N.R.	7,8
TRIMETHYLENE CHLOROBROMIDE	100	N.R.	
TRIPHENYL PHOSPHATE	100	30	
TRIPHENYL PHOSPHITE	100	30	
TRIPOTASSIUM PHOSPHATE ($K_5O_{10}P_3$)	0.03	60	
TRIPOTASSIUM PHOSPHATE ($K_5O_{10}P_3$)	all	40	2
TRIPROPYL AMINE -N	all	N.R.	
TRIPROPYLENE GLYCOL	all	60	0
TRISODIUM PHOSPHATE ($NA_5O_{10}P_3$)	0.03	60	
TRISODIUM PHOSPHATE ($NA_5O_{10}P_3$)	all	40	2
TRITOLYL PHOSPHATE	all	-	
TUNG OIL	100	80	
TURPENTINE	all	65	
TWEEN SURFACTANT	all	-	25
U			
URANIUM EXTRACTION		-	9
UREA	all	30	
UREA FORMALDEHYDE RESINS PH < 7	all	25	5
UREA : AMMONIUM NITRATE : H_2O	35 : 44 : 21	-	

CHEMICAL SUBSTANCE	CONCENTRATION	ATLAC® PREMIUM 450 (STYRENE-FREE)	NOTES
V			
VARSOL SOLVENT	100	-	9,27
VEGETABLE OILS	100	80	
VERSENE (NAEDTA)	all	N.R.	26
VINEGAR	all	60	0
VINYL ACETATE	100	N.R.	
VINYL CHLORIDE	100	N.R.	
VINYL TOLUENE	100	N.R.	
VINYLIDENE CHLORIDE (= 1,1-DICHLOROETHYLENE)	100	N.R.	
W			
WATER, CONDENSATE	100	40	
WATER, DEIONIZED	100	40	
WATER, DEMINERALIZED	100	40	
WATER, DISTILLED	100	40	
WATER, SEA	100	50	0
WATER, TAP	100	50	0
WHISKY		40	9
WHITE LIQUOR (PULP MILL)		N.R.	9
WINE		40	9
X			
XYLENE	100	50	
XYLENE (M-)	100	50	
XYLENE (O-)	100	50	
XYLENE (P-)	100	50	
XYLIDINE (= DIMETHYL ANILINE)	100	N.R.	
Z			
ZEOLITE	all	-	0,9
ZINC CHLORATE	all	80	0
ZINC CHLORIDE	all	80	0
ZINC CYANIDE	all	60	
ZINC NITRATE	all	80	0
ZINC SULPHATE	all	80	0
ZINC SULPHITE	all	80	

NOTES

0	In case of chemical exposure above 80°C we recommend to contact our technical service centre for advice
1	Could expect satisfactory performance at higher temperatures
2	Double synthetic veil has to be used
3	Heat treatment will increase the service life. For temperatures near to maximum exposure temperature heat treatment is mandatory
4	Benzoyl peroxide/amine cure system mandatory
5	Satisfactory up to maximum stable temperature of stored component
6	5 mm thick chemical resistant layer
7	Double C-glas veil should be used in the chemical resistant barrier
8	Acid resistant glass should be used in the chemical resistant barrier
9	Contact our technical service group
10	Bleach chlorite: 10 w/w% Sodium chlorite and 10 w/w% Sodium nitrate
11	Bleach hydrosulphite: 5 w/w% Zinc hydrosulphite + 2.5 w/w% Tripolyphosphate
12	Bleach peroxide: 2 w/w% Sodium peroxide + 0.025 w/w% Magnesium sulphate + 5 w/w% Sodium silicate (42°Be) + 1.4% Sulphuric acid (66°Be)
13	Cadmium plating solution: 19.2% Cadmium oxide + 10% Sodium cyanide + 1.2% Sodium hydroxide
14	Chromium plating solution: 18.5% Chromic acid + 0.6% Sodium fluosilicate + 0.01% Sodium sulphate
15	Gold plating solution: 22.8% Potassium ferrocyanide + 0.2% Potassium gold cyanide + 0.8% Sodium cyanide
16	Lead plating solution: 8% Lead + 0.8% Fluoboric acid + 0.4% Boric acid
17	Nickel plating solution: 11.19% Nickel sulphate + 1.4% Nickel chloride + 1.1% Boric acid
18	Nickel plating solution: 419.7% Nickel sulphate + 19.5% Ammonium chloride + 19.5% Boric acid
19	Silver plating solution: 19.9% Silver cyanide + 6.5% Potassium cyanide + 1.6% Potassium carbonate + 4.5% Sodium cyanide
20	Tin plating solution: 18.19% Stannous fluoborate + 7.4% Metallic tin + 9.1% Fluoboric acid + 2.19% Boric acid + 0.1% Naphtol
21	Zinc plating solution: 49% Zinc fluoborate + 4.4% Ammonium chloride + 5.9% Ammonium fluoborate
22	8-8-8 Fertilizer solution: Phosphoric acid + Ammonia + Urea + Potash + Borax
23	Uran: Urea-Ammonium-Nitrate solution: 44.19% Ammonium nitrate + 195.4% Urea + 20.19% Water
24	Epikote is a tradename of Hexion
25	Span and Tween are tradenames of ICI
26	Versene is a tradename of Dow
27	Varsol is a tradename of Esso
28	Solution can discolour in contact with FRP laminate
29	Above 50°C acid resistant glass recommended in the structural wall
30	Acid resistant glass recommended in the structural wall

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