



**PETOL® POLYETHER POLYOLS**

**CHLOR – ALKALI**

**OXO - ALCOHOLS**



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## POLY (PROPYLENE OXIDE) HOMOPOLYMERS (PPG)

### GENERAL DESCRIPTION:

**Petol 56-2A, Petol 110-2A** are high purity polyoxypropylene glycols acidified with a low level of phosphoric acid and containing an antioxidant to comply with food contact regulations.

They are suitable for use in isocyanate-terminated prepolymers.

**Petol 120-2, Petol 250-2** are high purity polyoxypropylene glycols designed for the production of polyurethane elastomers, adhesives, coatings and sealants. They can also be used as a viscosity reducer in polyol blends for rigid foams production.

**Petol 56-2LM, Petol 28-2LM** are high performance, low monol polyoxypropylene glycols prepared with organo-metallic propoxylation catalyst, designed for the production of polyurethane elastomers, adhesives, coatings and sealants.

Type	Name	Hydroxyl value	Acid value (BBT), max. mg KOH/g	Viscosity at 25 °C	Water (Karl-Fischer) max	Typical density at 25 °C	Average molecular weight
		mg KOH / g		cP	%	g/cm <sup>3</sup>	g/mol
<b>56-2 A</b>	PETOL	53-59	0.05	280-380	0.05	1.002	2000
<b>56-2 LM</b>	PETOL	53-59	0.05	300-450	0.05	1.002	2000
<b>120-2</b>	PETOL	110-130	0.05	100-180	0.05	1.003	935
<b>110-2 A</b>	PETOL	108-116	0.05	140-180	0.05	1.003	1000
<b>250-2</b>	PETOL	240-260	0.05	60-100	0.08	1.002	450
<b>28-2LM</b>	PETOL	26-30	0.05	900-1200	0.05	1.001	4000

### MAIN APPLICATION:

- coating
- adhesives
- elastomers
- sealants
- defoamers
- viscosity reducer in polyol blends for polyurethane foams
- flexibility agent for epoxy resins
- lubricants

### SHIPPING INFORMATION:

Stainless steel or coated railway or road tanks; drums

### STORAGE & HANDLING:

Being hygroscopic, Poly (propylene oxide) homopolymers (PPG) should be stored in tightly closed containers under nitrogen blanket, in cold, dry, vented areas, far from heat, moisture and inconsistent materials, at temperatures within + 20°C and + 30°C.



## TRIOLS (BASED ON GLYCERINE) FOR FLEXIBLE FOAMS

### GENERAL DESCRIPTION:

**Petol 46-3MB** and **Petol 48-3MB** are heteropolymer triols, designed for the manufacture of standard, soft and super soft flexible slabstock polyurethane foams. They can be used with or without auxiliary blowing agent (liquid CO<sub>2</sub>; methylene chloride) to produce a wide range of foam grades, ranging from low to high density. **Petol 46-3MB** and **Petol 48-3MB** are BHT-free products that can be processed on all state-of-the-art slabstock machinery.

**Petol 56-3** is a homopolymer triol designed to increase the hardness of flexible foams and to produce CME (Combustion Modified Ether) flexible polyurethane foams. **Petol 56-3** is a BHT-free product that can be processed on various foam machines. The product can also be used in polyol blends for rigid foams production.

**Petol 36-3BR** is a high reactivity capped triol designed for high resilience block ; cold-cure flexible and semi-rigid molded foams. The product has a high content of primary hydroxyl groups and is normally used in TDI/MDI or MDI blend formulations.

**Petol 28-3B** is a high reactivity capped triol designed for high resilience flexible slabstock and molded foams.

**Petol S 38-3B** is a reactive polyether triol, with a high content of ethylene oxide, designed for soft and supersoft flexible polyurethane foams slabstock production and as cell opener for high resilience flexible foams.

**PETOL 56-3LM** is a polyether polyol triol, a propylene oxide homopolymer, with an average molecular weight 3000 and low monol content, designed for flexible slabstock polyurethane foam especially combustion modified ether (CME).

**PETOL 48-3S** is a heteropolymer triol, with nominal molecular weight of 3500, with low monol content, developed for the manufacture of conventional flexible slabstock polyurethane foams. **PETOL 48-3S** can be used with or without auxiliary blowing agent to produce a wide range of foam grades, ranging from low to high density. The product can be processed on all equipments used for polyurethane foam slabstock production.

Type	Name	Hydroxyl value	Acid value (BBT), max. mg KOH/g	Viscosity at 25 °C	Water (Karl-Fischer) max	Typical density at 25 °C	Average molecular weight
		mg KOH / g		cP	%	g/cm <sup>3</sup>	g/mol
<b>46-3MB</b>	PETOL	43-49	0.05	500-700	0.1	1.015	3600
<b>48-3MB</b>	PETOL	46-50	0.05	530-630	0.1	1.015	3500
<b>56-3</b>	PETOL	53-59	0.05	400-600	0.1	1.005	3000
<b>36-3BR</b>	PETOL	33-39	0.05	700-1000	0.1	1.017	4800
<b>28-3B</b>	PETOL	26-30	0.05	1050-1300	0.1	1.015	6000
<b>S 38-3B</b>	PETOL	36-40	0.1	1050-1250	0.1	1.08	4400
<b>56-3LM</b>	PETOL	53-59	0.05	500-700	0.1	1.005	3000
<b>48-3S</b>	PETOL	46-50	0.05	630-830	0.1	1.015	3500

### MAIN APPLICATION:

- flexible slabstock foams (standard, soft or super soft)
- high resilience molded polyurethane foams
- high resilience flexible slabstock foams
- semi-rigid and integral skin foams

### SHIPPING INFORMATION:

Stainless steel or coated railway or road tanks

### STORAGE & HANDLING:

Being hygroscopic, Triols (based on Glycerine) for flexible foams should be stored in tightly closed containers under nitrogen blanket, in cold, dry, vented areas, far from heat, moisture and inconsistent materials, at temperatures within + 20°C and + 30°C.

## TRIOLS (BASED ON GLYCERINE) FOR SPECIAL APPLICATIONS

### GENERAL DESCRIPTION:

**Petol 160-3** is a polyoxypropylene triol, the standard polyol for one-component spray foams. The product can also be used in polyol blends for manufacturing polyurethane elastomers, coatings, adhesives and special polyurethane foams, as a flexibilizer agent for epoxy resins.

**Petol 250-3** is a polyoxypropylene triol used in manufacturing rigid, semi-rigid and special flexible polyurethane foams. If blended with other PETOL Polyether Polyols, it can vary physical and mechanical characteristics of semi-rigid and rigid polyurethane foams. **Petol 250-3** is also used in blends for manufacturing coatings, adhesives and casting elastomers.

**Petol 400-3** is a polyoxypropylene triol, a low viscosity polyol used in polyol blends for rigid polyurethane foam applications. If blended with other PETOL Polyether Polyols, it can vary physical and mechanical characteristics of semi-rigid and rigid polyurethane foams. **PETOL 400-3** is also used in the production of adhesives and coatings.

Type	Name	Hydroxyl value	Acid value (BBT), max. mg KOH/g	Viscosity at 25 °C	Water (Karl-Fischer) max	Typical density at 25 °C	Average molecular weight
		mg KOH / g		cP	%	g/cm <sup>3</sup>	g/mol
<b>160-3</b>	PETOL	150-170	0.05	240-300	0.08	1.018	1000
<b>250-3</b>	PETOL	240-260	0.05	240-300	0.08	1.027	670
<b>400-3</b>	PETOL	360-400	0.1	330-430	0.08	1.05	440

### MAIN APPLICATION:

- base polyols for OCF
- CASE applications
- hydraulic fluids
- rigid foams formulations
- flexiblensness agent for epoxi resins

### SHIPPING INFORMATION:

Stainless steel or coated railway or road tanks

### STORAGE & HANDLING:

Being hygroscopic, **Triols (based on Glycerine) for special applications** should be stored in tightly closed containers under nitrogen blanket, in cold, dry, vented areas, far from heat, moisture and inconsistent materials, at temperatures within + 20°C and + 30°C.

**SAN POLYMER POLYOLS (Styrene-Acrylonitrile Copolymer grafted on the Polyether Chains)****GENERAL DESCRIPTION:**

**Petol PP 451** is a non-reactive polymer polyols with about 40% and 45% solid content 3500 average molecular weight of base standard polyol, designed to obtain enhanced load bearing flexible slabstock foams.

**Petol PP 251, Petol PP 151** and **Petol PP 101** are non-reactive polymer polyols with a solid content from 10 to 27% and 3500 average molecular weight of standard polyol, designed to obtain enhanced load bearing flexible slabstock foams.

**Petol PP 2725** is a reactive polymer polyol with about 25% solid content and 4800 average molecular weight of base reactive polyol, designed to obtain high resilience flexible polyurethane foams (HR).

These polymer polyols can be used alone or blended with other polyols.

Type	Name	Hydroxyl value	Solid content	Viscosity at 25 °C	Water (Karl-Fischer) max	Typical density at 25 °C	Average molecular weight
		mg KOH / g	%	cP	%	g/cm <sup>3</sup>	g/mol
<b>PP 451</b>	PETOL	28-34	44-47	3800-4600	0.1	1.033	3500
<b>PP 251</b>	PETOL	36-40	24-27	1000-1700	0.1	1.028	3500
<b>PP 151</b>	PETOL	37-41	14-16	1100-1300	0.08	1.025	3500
<b>PP 101</b>	PETOL	41-45	9-11	700-1000	0.08	1.025	3500
<b>PP 2725</b>	PETOL	25-29	23-25	2500 - 3500	0.1	1.035	4800

**MAIN APPLICATION:**

- slabstock flexible polyurethane foams

**SHIPPING INFORMATION:**

Stainless steel or coated railway or road tanks

**STORAGE & HANDLING:**

Being hygroscopic, **SAN POLYMER POLYOLS (Styrene-Acrylonitrile Copolymer grafted on the Polyether Chains)** should be stored in tightly closed containers under nitrogen blanket, in cold, dry, vented areas, far from heat, moisture and inconsistent materials, at temperatures within + 20°C and + 30°C.



## SUCROSE/SORBITOL BASED POLYOLS

### GENERAL DESCRIPTION:

**Petol PZ 360-4G** is a medium functionality sucrose based polyether-polyol with low viscosity. This Polyether Polyol is used especially in polyol blends with high water levels for rigid polyurethane foam applications (wood imitation, conventional insulation applications).

**Petol PZ 400-4G** is a medium functionality sucrose based polyether polyol, a general purpose standard polyol for rigid polyurethane foams used in various rigid applications (continuous and discontinuous panel production process, appliances).

**Petol PZ 480-4G** is a medium functionality sucrose based polyether polyol developed for the production of rigid polyurethane foams. It is used as a standard polyol for various rigid applications such as rigid block production, pipe insulation and continuous and discontinuous panel production process.

**Petol PZ 400-5G** is a high functionality sucrose based polyether polyol, a general purpose standard polyol for rigid polyurethane foams used in various rigid applications (sandwich panels, appliances, refrigerators, doors) and thermal insulation applied by spray technique.

**Petol PS 460-5P, Petol PS 500-5G, Petol PS 500-4G, Petol PS 400-4G** and **Petol PS 480-6**, are medium functional polyether polyols obtained by propoxilation of sorbitol-glycerol blends under catalyst conditions, used as a base polyols for rigid polyurethane foams.

Type	Name	Hydroxyl value	Average Molecular weight	Viscosity at 25 °C	Water (Karl-Fischer) max	Typical density at 25 °C	Functionality
		mg KOH / g	g/mol				
<b>PZ 360-4G</b>	PETOL	345-375	700	2700-3700	0.1	1.1	4.6
<b>PZ 400-4G</b>	PETOL	400-450	630	4000-6000	0.1	1.1	4.5
<b>PZ 480-4G</b>	PETOL	460-490	530	6500-9000	0.1	1.1	4.5
<b>PZ 400-5G</b>	PETOL	400-450	700	5000-11000	0.1	1.1	5
<b>PS 460-5P</b>	PETOL	440-480	650	12500-15500	0.1	1.09	5.4
<b>PS 500-5G</b>	PETOL	480-520	550	7500-10500	0.1	1.09	4.8
<b>PS 500-4G</b>	PETOL	480-520	450	2000-4000	0.1	1.08	4
<b>PS 400-4G</b>	PETOL	400-450	630	3000-5000	0.1	1.1	4.5
<b>PS 480-6</b>	PETOL	460-500	700	30000-40000	0.2	1.12	6

### MAIN APPLICATION:

- Polyol blends for rigid polyurethane foams

### SHIPPING INFORMATION:

Stainless steel or coated rail or car tanks, provided with shell or coil, in clean, dry, tightly closed TDA drums of 100l and 200l.

### STORAGE & HANDLING:

Being hygroscopic products, Sucrose/Sorbitol based Polyols should be stored in tightly closed containers under nitrogen blanket, in dry, vented areas, far from heat, moisture and inconsistent materials, at temperatures between +20° C - +30° C for Sucrose based Polyols and +25° C - +35° C for Sorbitol based Polyols.

**ALIPHATIC AMINES AND MANNICH POLYOLS****GENERAL DESCRIPTION:**

**Petol PA 450-4E** and **Petol PA 640-4E** are propoxylated ethylene diamine used as a crosslinker agent for rigid and semirigid polyurethane foams.

**Petol PA 450-3T** is an Aminic Polyether Polyol with high reactivity, obtained by propoxilation of triethanolamine, used as crosslinker agent for rigid polyurethane foams, semi rigid foams or as a viscosity reducer of polyols blend.

**Petol PM 410-4N** is a Mannich Polyol based on nonylphenol and used in polyol blends for poured and sprayed polyurethane rigid foams.

Type	Name	Hydroxyl value	Average Molecular weight	Viscosity at 25 °C	Water (Karl-Fischer) max	Typical density at 25 °C	Functionality
		mg KOH / g	g/mol		cP		
<b>PA 450-4E</b>	PETOL	430-470	500	3000-5000	0.1	1.05	4
<b>PA 640-4E</b>	PETOL	615-665	350	14500-19500	0.2	1.07	4
<b>PA 450-3T</b>	PETOL	400-500	375	300-400	0.1	1.06	3
<b>PM 410-4N</b>	PETOL	400-440	530	8000-15000	0.1	1.06	4

**MAIN APPLICATION:**

- rigid polyurethane foams
- crosslinker agent
- semirigid polyurethane foams

**SHIPPING INFORMATION:**

Stainless steel, coated railway or road tanks

**STORAGE & HANDLING:**

Being hygroscopic products, **ALIPHATIC AMINES AND MANNICH POLYOLS** should be stored in tightly closed containers under nitrogen blanket, in dry, vented areas, far from heat, moisture and inconsistent materials, at temperatures between + 20°C and + 30°C.



## PROPYLENE OXIDE

### GENERAL DESCRIPTION:

Propylene oxide is obtained through propylene hydro chlorination. It is soluble in water and miscible with acetone, benzene, carbon tetrachloride, diethyl ether, and ethanol. Propylene oxide is a volatile, clear, colorless, extremely flammable liquid with an ether-like odor.

### TECHNICAL QUALITY CONDITIONS:

Characteristics	MU	Values
Propylene oxide, min.	%	99.9
Aldehydes and ketones (propioaldehyde), max.	%	0.01
Water (Karl-Fischer), max.	%	0.01
Acidity (CH <sub>3</sub> COOH), max.	%	0.005
Hazen color, max.	Hazen units	10

### Specific Properties:

Density at 20°C, g/cm <sup>3</sup>	0.828
Boiling point at 760 mmHg	34°C
Ignition temperature	-37 °C
Flammability	Extremely flammable

The values of specific properties are approximated, and are only for general information and are not part of the technical quality conditions.

### MAIN APPLICATIONS:

- polyether polyols for polyurethanes ;
- propylene glycol;
- glycol ethers;
- specialty chemicals;
- glycerine;
- brake fluid;
- fire fighting agents;
- synthetic lubricants;
- chemicals for oil drilling etc.

### SHIPPING INFORMATION:

The product is delivered in stainless steel or carbon steel car or rail tanks, specifically designed for the product, property of supplier or client.

### STORAGE & HANDLING:

Propylene oxide is stored in tightly closed steel containers (under nitrogen blanket), provided with grounding (to avoid generation of electrostatic discharges), in cool, well-ventilated areas, far from heat sources and incompatible materials. Outdoor storage is preferred for a period not exceeding three months without affecting the product quality. At the beneficiary's request, protected containers can be used. The storage tanks will be equipped with self-closing safety valves, vacuum gauges and a flame trap.

Before handling and using of product, the personnel must be aware of the dangers implied.



## PROPYLENE GLYCOL

### GENERAL DESCRIPTION:

Propylene Glycol is a clear, viscous, oily, colorless liquid, with a characteristic odor. The product is very easily soluble in alcohol, water, acetone and chloroform.

### TECHNICAL QUALITY CONDITIONS:

Characteristics	MU	Values
Appearance	-	viscous, clear liquid
Propylene glycol, min	%	99.5
Distillation range (95% vol.)	°C	185-189
Water (Karl-Fischer), max.	%	0.25
Acidity (CH <sub>3</sub> COOH), max.	%	0.005
Hazen color, max.	Hazen units	10
Ashes, max.	%	0.01

### Specific Properties:

Density at 20°C, g/cm <sup>3</sup>	1.037
Boiling point at 760 mm Hg	188.2°C
Ignition temperature	99°C
Flammability	Not flammable

The values of specific properties are approximated, and are only for general information and are not part of the technical quality conditions.

### MAIN APPLICATIONS:

- unsaturated polyester resins;
- urethanes;
- paints & varnishes;
- heat transfer fluids;
- antifreezes, polyether polyols, antifoaming agents;
- as glycerin substitute in fine organic synthesis;
- as solvent in printing inks;
- as solvent and enzyme stabilizer in laundry detergents;
- stabilizer in hydraulic fluid;
- plasticizer to improve process ability of plastics, demulsifying;
- cellophane manufacturing.

### SHIPPING INFORMATION:

Propylene Glycol is packed in stainless steel or carbon steel tanks with adequate internal protection, with a capacity of 20 or 40 tons, property of supplier or customer, or in other stainless steel or aluminum, clean and dry containers.

### STORAGE & HANDLING:

It is stored in specially designed, shed-type storage facilities, with concrete platform.

In the case of storage in reservoirs, a slight overpressure with inert gas will be created to avoid moisture infiltration (the product is hygroscopic).

Before handling and using of product, the personnel must be aware of the dangers implied.

**CAUSTIC SODA LIQUID**
**GENERAL DESCRIPTION:**

Caustic soda lye (sodium hydroxide solution) is manufactured by the electrolysis of brine using membrane technology. It is a clear, colorless and odorless liquid. Sodium hydroxide is a strong electrolyte, being completely ionized in solution state. It is a stable product when stored under normal conditions of pressure and temperature, in tightly closed tank cars or containers.

**TECHNICAL QUALITY CONDITIONS:**

Characteristics	MU	Values
Appearance	-	clear liquid, free of mechanical impurities
Sodium hydroxide (NaOH), min.	%	48
Sodium carbonate (Na <sub>2</sub> CO <sub>3</sub> ), max.	%	0.25
Sodium chloride (NaCl), max	%	0.050
Iron oxides (Fe <sub>2</sub> O <sub>3</sub> ), max.	%	0.001

**Specific Properties:**

pH	strongly alkaline
Boiling point	145°C
Ignition temperature	not ignitable
Density at 25°C	1.53

The values of specific properties are approximated, and are only for general information and are not part of the technical quality conditions.

**MAIN APPLICATIONS:**

- oil industry;
- petrochemical industry;
- aluminum industry;
- pulp and paper industry;
- soap and detergents industry;
- chemical industry;
- food industry;
- pharmaceutical industry;
- water treatment;
- textile industry at the manufacturing of cellulose
- fibers by viscose process.

**SHIPPING INFORMATION:**

Caustic soda solution is delivered in inner covered steel tanks equipped with heating coils, supplier or customer property, 20 or 40 tons capacity.

**STORAGE & HANDLING:**

Caustic soda solution is stored in inner covered steel reservoirs or tanks.

Caustic soda solution is a corrosive product.

Before handling and using of product, the personnel must be aware of the dangers implied.

## CAUSTIC SODA SOLID

### GENERAL DESCRIPTION:

Caustic soda solid is obtained from sodium hydroxide - technical grade. It is a solid, white, hygroscopic, odorless substance. Caustic soda solid easily dissolves in water, with heat release. The product is soluble in methyl and ethyl alcohols. Sodium hydroxide is a strong electrolyte (completely ionized both in crystalline and solution states). Sodium hydroxide is not volatile, but it rises easily in air as aerosols. It is insoluble in ethyl ether.

### TECHNICAL QUALITY CONDITIONS:

Characteristics	MU	Block	Flakes	Pearls
Sodium hydroxide (NaOH), min.	%	98	98	99
Sodium carbonate (Na <sub>2</sub> CO <sub>3</sub> ), max.	%	0.5	0.7	0.7
Sodium chloride (NaCl), max	%	0.15	0.15	0.10
Iron oxides (Fe <sub>2</sub> O <sub>3</sub> ), max.	%	0.01	0.004	0.004

### Specific Properties:

pH	strongly alkaline
Boiling point	1390°C
Ignition temperature	not ignitable
Relative density at 25°C	2.13
Melting point	318°C

The values of specific properties are approximated, and are only for general information and are not part of the technical quality conditions.

### MAIN APPLICATIONS:

- oil industry;
- petrochemical industry;
- aluminum industry;
- pulp and paper industry;
- soap and detergents industry;
- chemical industry;
- food industry;
- pharmaceutical industry;
- water treatment;
- textile industry at the manufacturing of cellulose fibers by viscose process.

### SHIPPING INFORMATION:

**Caustic Soda block** is delivered in corrugated sheet drums, 0.5 mm thick, unpainted, maximum capacity of 400 kg net (maximum allowable tolerance  $\pm 4$  kg).

**Caustic Soda flakes** and **pearls** are packed in palletized polyethylene bags of 25 kg (permissible variation  $\pm 0.2$ kg) and in 1 ton (permissible variation  $\pm 5$  kg) bags made of polypropylene lined with polyethylene.

### STORAGE & HANDLING:

Caustic soda storage is provided in dry warehouses.

Caustic soda is a corrosive product.

Before handling and using of product, the personnel must be aware of the dangers implied.

## HYDROCHLORIC ACID

### GENERAL DESCRIPTION:

Hydrochloric acid is a colorless to yellow-greenish liquid, with pungent odor. The product can be mixed in any proportion with water, acetic acid, ethyl alcohol, chloroform, acetone, etc. Hydrochloric acid is a strong acid and also a very stable compound. At heat (over 1500°C) it decomposes in hydrogen and chlorine.

### TECHNICAL QUALITY CONDITIONS:

Characteristics	MU	Type I	Type II
Appearance	-	clear liquid	
Color	-	colorless to yellow-greenish	
Hydrogen chloride (HCl), min.	%	32	
Iron (Fe), max.	%	0.001	0.002
Chlorine (Cl <sub>2</sub> ), max.	%	0.01	

### Specific Properties:

pH	0,1 (solution 4%)		
Boiling point	-84°C		
Density, g/cm <sup>3</sup>	1.19		
Ignition temperature	not ignitable		

The values of specific properties are approximated, and are only for general information and are not part of the technical quality conditions.

### MAIN APPLICATIONS:

- inorganic and organic chemical industry;
- pharmaceutical industry;
- synthetic fibers industry;
- metalworking industry (for scouring and decaling);
- as regenerating agent for ion exchange resins used in water demineralization plants;
- leather industry;
- oil industry as neutralizing agent, for oil processing;
- metallurgical industry as pickling and cleaning agent;
- rubber industry, for chloroprene synthesis;
- ceramic and textile industries.

### SHIPPING INFORMATION:

It is packed in lined steel tanks (ebonite covering), supplier or client property.

### STORAGE & HANDLING:

It is stored in lined steel tanks (ebonite covering) equipped with degassing pipes. Hydrochloric acid is an aggressive and toxic product. Before handling and using of product, the personnel must be aware of the dangers implied.

## SODIUM HYPOCHLORITE

### GENERAL DESCRIPTION:

Sodium hypochlorite is obtained by passing chlorine through a solution of sodium hydroxide.

The aqueous solution is clear, pale yellow or greenish, with a specific odor of chlorine.

### TECHNICAL QUALITY CONDITIONS:

Characteristics	MU	Values
Appearance	-	clear liquid
Color	-	yellow-greenish
Active chlorine (Cl), min.	%	13
Chlorides (Cl), max.	%	1.5
Free sodium hydroxide	%	0.7 - 2
Sodium carbonate, max.	%	2

### Specific Properties:

Relative molecular weight	74.44
Boiling point (range)	48 – 76°C, with decomposition in sodium chlorate and chloride
Density, g/cm <sup>3</sup>	1.09 for solution 5.25% 1.15 for solution 8.0% 1.21 for solution 12.0%

The values of specific properties are approximated, and are only for general information and are not part of the technical quality conditions.

### MAIN APPLICATIONS:

- as bleaching agent in textile, paper and pulp industries;
- as oxidizing agent in chemical industry;
- water treatment;
- as disinfectant agent in housekeeping;
- textile industry for production of viscose fiber and silk;
- power industry, etc.

### SHIPPING INFORMATION:

Supplier steel tanks lined with rubber or polyvinyl chloride, with a capacity of 50 tones.

### STORAGE & HANDLING:

It should be stored in metal reservoirs with anticorrosion inner protection, which are kept by cooling at temperatures of maximum 25°C in dry areas, away from heat and direct sunlight.

Sodium hypochlorite is an irritating product to skin, eyes and mucous membranes.

Before handling and using of product, the personnel must be aware of the dangers implied.

**OCTANOL (2-ETHYL-HEXANOL)****GENERAL DESCRIPTION:**

Octanol (2-Ethyl-hexanol) is a colorless liquid with a specific odor. The product is little soluble in water. It is combustible and flammable. On heating above 75°C, octanol vapors give explosive mixtures with air. By heating to decomposition, octanol gives carbon monoxide and dioxide. It can also give irritant and corrosive gases.

**TECHNICAL QUALITY CONDITIONS:**

Characteristics	MU	Values
2 Ethyl-hexanol, min.	%	99.7
Distillation range (95% vol.)	°C	183-185
Acidity (CH <sub>3</sub> COOH), max.	%	0.01
Water (Karl-Fischer), max.	%	0.05
Color, max.	Hazen Units	5
Aldehydes and cetones content (2 ethyl-hexanal), max	%	0.050
Unsaturated content (2 ethyl-hexenal), max	%	0.01
Color after H <sub>2</sub> SO <sub>4</sub> test (1 h la 95°C), max	Hazen Units	20

**Specific Properties:**

Density, g/cm <sup>3</sup>	0.832
Boiling temperature, °C	183-186
Ignition temperature, °C	75
Flammability	flammable

The values of specific properties are approximated, and are only for general information and are not part of the technical quality conditions.

**MAIN APPLICATIONS:**

- in plasticizers manufacturing;
- in synthetic lubricants manufacturing;
- in surfactants and antifoaming agents manufacturing;
- as low volatility solvent for animal fats and vegetal and mineral oils;
- as wetting and dispersion agent for textiles.

**SHIPPING INFORMATION:**

The product is packed in 20 or 40 tons steel tanks, property of supplier or client.

**STORAGE & HANDLING:**

In case of reservoirs storage it is recommended to provide a nitrogen blanket and ventilation systems with flame traps. Octanol (2-Ethyl-hexanol) is a toxic product. Before handling and using of product, the personnel must be aware of the dangers implied.

**ISO-BUTANOL (2 METHYL PROPANOL)****GENERAL DESCRIPTION:**

Iso-butanol is a colorless liquid, with a characteristic odor. Mixed with air, within 1.45 to 11.25% vol. limits, iso-butanol forms explosive mixtures.

**TECHNICAL QUALITY CONDITIONS:**

Characteristics	MU	Values
Iso-butanol, min.	%	99.5
Distillation range (95% vol.)	°C	106-109
Acidity (CH <sub>3</sub> COOH), max.	%	0.006
Water (Karl-Fischer), max.	%	0.1
Color, max.	Hazen units	10
Non-volatile, max.	%	0.0025

**Specific Properties:**

Density at 20 °C, g/cm <sup>3</sup>	0.801
Boiling temperature, °C	106-108
Ignition temperature, °C	28 (closed cup)
Flammability	flammable

The values of specific properties are approximated, and are only for general information and are not part of the technical quality conditions.

**MAIN APPLICATIONS:**

- solvent in the industry of nitro-cellulose and alkyd resin based varnishes;
- solvent in synthetic leather manufacturing;
- extraction agent for oils, drugs, perfumes, hormones, antibiotics, vitamins;
- in preparing flotation agents for ore;
- solvent for oven dried, urea and phenolic resin based varnishes.

**SHIPPING INFORMATION:**

The product is packed in stainless steel tanks with a capacity of 20 or 40 tons, property of supplier or customer.

**STORAGE & HANDLING:**

The product will be stored in cold, covered areas, away from fire or other sources of ignition. Iso-butanol is a toxic product. Iso-butanol is incompatible with alkali metals, aluminum, strong oxidizers, acetaldehydes, isocyanates, chlorine. Before handling and using of product, the personnel must be aware of the dangers implied.



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