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INORGANIC PRODUCTS

Storage Conditions: Store in unheated storage rooms in sealed stainless steel containers.

Storage Warranty: 3 months.

Incompatible Products: Acids, alkalis.

Packing: Stainless steel railway cisterns, containers and 200 litre barrels.

Transport Type: Railway, road.

Labelling: T Symbol UN Hazard Class: 6.1

N Symbol UN Pack Group: II

R: 23/24/25-40-48/23-52/53-59 Marine pollutant
S: 23-36/37-45-59-61 RID/ADR 6.1/15b
Transport Emergency Card: TEC (R)-102
NFPA Code: H 3; F 0; R 0

CARBON TETRACHLORIDE

Specs. 2412-321-05763441-2000

Chemical Name: Tetrachloromethane

Synonyms & Trade Names: Perchloromethane; Tetrachlorocarbon; CTC.

Structural Formula:

Empirical Formula: CCl_4 **RTECS:** FG4900000

Molecular Mass: 153.82 **UN:** 1846 **EC:** 2002628

CAS Number: 56-23-5 **ICSC:** 0024

H.S. Code: 2903 14 000 0 **EC-Index:** 602-008-00-5

Application: in production of cooling agents, perchlorocarbon, as a solvent, degreasing agent, as a component in fire extinguishing compositions.

Quality Data:

Appearance Transparent liquid from colorless
or light yellow to light brown color

Density at 20 °C, g/cm³, min 1,580

Water content, %, max 0,02

Acids content as HNO_3 , %, max 0,002

Impurities content (GC), %, max 1,0

HYDROGEN PEROXIDE 35 %

IST 301-02-205-99

Chemical Name: Hydrogen peroxide

Synonyms & Trade Names: Hydrogen dioxide; Perhydrol; Albione (Atofina); Hydroperoxide; Inhibine;

Perone; PEROXAL (Atofina); Superoxol; T-stuff; VALSTERANE (Atofina);

DUROX (FMC Chemicals); Interlox (Solvay).

Structural Formula:

Empirical Formula: H_2O_2 **RTECS:** MX0899000

Molecular Mass: 34.02 **UN:** 2014

CAS Number: 7722-84-1 **EC:** 2317650

H.S. Code: 2847 00 000 0

Application:

in textile industry - for cotton, linen, wool, artificial fibers (viscose, acetate) bleaching;

in pulp and paper industry - for wood pulp and paper bleaching;

in chemical industry - for peroxide compounds production (sodium percarbonate and perborate);

in machine-building industry - for metal surfaces cleaning before electrolytic coating;

in medical industry as a disinfectant.

Storage Conditions: Store indoors in original packing, away from direct sunlight, max storage temperature + 30 °C.

Storage Warranty: 6 months.

Incompatible Products: Organic substances. Avoid contact with iron, lead, silver, manganese and their salts.

Packing: Railway cisterns, 20 l polyethylene cans.

Transport Type: Railway, road.

Labelling: R: 34 UN Hazard Class: 5.1

S: 3-28-36/39-45 UN Pack Group: II

RID/ADR 5.1/1b

Quality Data:

Brand B

Appearance Colorless transparent liquid

Assay, % 35 - 40

Acetic acid content, g/dm³, max 6

Non volatiles content, g/dm³, max 0,7

Note: Assay reduction of 2,5 % is possible within storage warranty period for brands B, C.

CHLOROFORM

GOST 20015-88

Chemical Name: Trichloromethane

Synonyms & Trade Names: Methane trichloride; Formyl trichloride; Methyl trichloride; Methenyl trichloride;

Refrigerant R20; Trichloroform; Freon 20; Khladon-20; NCI-C02686; R-20; TCM.

Structural Formula:

Empirical Formula: CHCl₃ ¹ **RTECS:** FS9100000

Molecular Mass: 119.38 ¹ **UN:** 1888

¹ **EC:** 2006638

CAS Number: 67-66-3 ¹ **ICSC:** 0027

H.S. Code 2903 13 000 0 ¹ **EC-Index:** 602-006-00-4

Application:

in chemical industry in production of cooling agents, fluoroplastics, as a solvent in chemical analysis;

in medical industry;

in pharmaceuticals;

in fragrances production.

Storage Conditions: Store in unheated storage rooms in sealed stainless steel containers.

Storage Warranty: 3 months (stabilized by amylene).

Incompatible Products: Oxidizers.

Packing: Stainless steel railway cisterns, containers, 200 litre Van Leer drums.

Transport Type: Railway, road.

Labelling: Xn Symbol UN Hazard Class: 6.1

R: 22-38-40-48/20/22 UN Pack Group: III

S: 36/37 RID/ADR: 6.1/15c

Quality Data:

Appearance Volatile colorless liquid

with characteristic odor.

Density at 20 oC, g/cm³ 1,473 - 1,490

Non volatiles residue, %, max 0,001

Water, %, max 0,06*

Îrganochlorous impurities, %, max 0,025
Acids content as HCl, %, max 0,001
Aldehydes content based on acetic aldehyde, %, max 0,0005
* *actual result: water, %, max - 0,015.*

METHYLENE CHLORIDE

Specs. 2412-426-05763441-2004

Chemical Name: Dichloromethane

Synonyms: Methylene dichloride, 1,1-Dichloromethane, DCM, MEC, MC, Methylene bichloride, Chlorocarbon, Freon-30, Khladon-30.

Trade Names: Aerothene MM Mecthene (The Dow Chemical Co) NCI-C50102

Chlorure de methylene Methylene Chloride A50 (Solvay SA) R 30

Dichlormethan, uvasol Methoklone (Ineos Chlor Ltd) Solaesthin

Metylenu chlorek Narkotil Solmethine

Structural Formula:

Empirical Formula: CH₂Cl₂ ¹ **RTECS:** PA8050000

Molecular Mass: 84.93 ¹ **UN:** 1593

¹ **EC:** 2008389

CAS Number: 75-09-2 ¹ **ICSC:** 0058

H.S. Code: 2903 12 000 0 ¹ **EC-Index:** 602-004-00-3

Application:

in production of chemical fibers, cinema and photo film, plastics and as a process solvent in pharmaceuticals;

in metallurgy industry, radio engineering for degreasing metal surfaces;

in paint-and-varnish industry as an additive to paints, adhesives;

as a foam blowing agent in flexible polyurethane foams production.

Storage Conditions: Store in unheated storage rooms or under a shed in sealed packing protected from sunlight and moisture.

Storage Warranty: 3 months (stabilized by amylene).

Incompatible Products: Oxidizers, acids and alkalis.

Packing: Van Leer drums 270 kg net, railway cisterns.

Transport Type: Railway, road.

Labelling: Xn Symbol UN Hazard Class: 6.1

R: 40 UN Pack Group: III

S: 23-24/25-36/37 RID/ARD: UN 1593 6.1/15c

Quality Data:

Appearance Transparent colorless liquid without mechanical impurities.

Density at 20 °C, g/cm³ 1,326 - 1,328

Water content, %, max 0,05

Residue on evaporation, %, max 0,0005

Iron, %, max 0,0001

Free acid as HCl, %, max 0,0004

Assay, %, min 99,7

Organochlorous impurities content, %, max 0,23
including chloroform (GC) content, %, max 0,2

2-PHENOXYETHANOL

Ethylene Glycol Monophenyl Ester

Specs. 2471-231-05763441-98

Chemical Name: 2-Phenoxyethanol

Synonyms: 1-Hydroxy-2-phenoxyethane; 2-Hydroxyethyl phenyl ether, 2-Phenoxy ethanol; Ethylene

Glycol Phenyl Ether; Ethyleneglycol phenyl ether; Glycol monophenyl ether; Mono-Phenylglycol; Phenyl cellosolve; Phenoxyethyl Alcohol; Phenoxyethylic alcohol; Phenylmonoglycol ether.

Trade Names: Phenoxetol(Clariant), Phenoxyethanol (Bayer AG, Yokkaichi Chemical Company Ltd.),

Phenyl Glycol (BASF A.G.).

Structural Formula:

Empirical Formula: C₆ H₅ OC₂H₄OH

Molecular Mass: 138.17

CAS Number: 122-99-6 ¹ **EC:** 2045897

H.S. Code: 2909 49 900 0 ¹ **EC-Index:** 603-098-00-9

Application:

Solvent in inks and ball point pastes;

Solvent for printing pastes and stamp-pad inks;

Feedstock for syntheses of plasticizers and air purifiers (disinfectants);

Solvent in the manufacturing of varnishes from nitrocellulose, cellulose acetate, ethyl cellulose, chlorinated rubber,

improves varnish flow (spreading) and glossing of varnish films;

Dissolving agent for substances when it is not possible to apply aliphatic glycols, specially recommended for

nitrocellulose, ethyl cellulose, vinyl acetate, phenol resins;

Solvent for resins in wire enamels;

Fixative for perfumes and soaps in the cosmetics industry, germicides, bactericides and insect repellents, biocide for cosmetics.

Other application:

Component of hydraulic fluids, coalescer in water-based latex adhesives, ensures reliable clarification of vegetable

oils, production of emulsions for photosensitive layer (films), tranquilizer in shipments of ornamental fish (salmon),

additive for metals and floors cleaners, conservation of human tissues.

Storage Conditions: Store indoors in original packing.

Storage Warranty: 12 months.

Packing: black color UN-approved Van Leer drums 200 kgs net each, railway tanks.

Transport Type: Railway, road.

Labelling: Xn Symbol

R: 22-36

S: 26

Quality Data:

Appearance Clear colorless oily liquid
with a mild odor reminiscent of roses
Assay, %, min 99
Phenol content, %, max 0,01
Refractive index at 25 °C 1,537 - 1,540
Water content, %, max 0,1
Platinum-cobalt color, Hasen units, max 15

p-NITROBENZOIC ACID

powder

Specs. 6-00-04691277-52-94

Chemical Name: 4-Nitrobenzoic acid

Synonyms & Trade Names: p-Nitrobenzoic acid; Benzoic acid, 4-nitro- (TSCA, DSL, ENCS, AICS, PICCS)*; PNBA;

Nitrobenzoic acid (p); p-Nitrodracrylic acid; Para Amino Benzoic Acid; Para amino Benzamide & dyes; Intermediate for

Procaine; Folic Acid; p-Nitrobenzoesäure; 4-Nitrobenzoesäure (German) (EINECS); p-NBS; p-NBA; Acide 4-nitrobenzoïque

(French) (DSL, EINECS); 4-nitrobenzoic acid (EINECS, ECL); Acido 4-nitrobenzoico (Spanish) (EINECS); Nitrodracrylic acid;

p-Carboxynitrobenzene; p-Nitrobenzenecarboxylic acid.

Structural Formula:

Empirical Formula: NO₂C₆H₄COOH

Molecular Mass: 167.12 ¹ **RTECS:** DH5075000

CAS Number: 62-23-7 ¹ **UN:** 3077

H.S. Code: 2916 31 000 0 ¹ **EC :** 2005262

Application: as an intermediate in production of dyes, monomers for high strength thermostable fibres, in production of

biologically active substances and medicines (anesthesine, novocaine).

Storage Conditions: Store indoors in original packing, away from heat sources. Max. storage temperature + 40 °C, min. storage temperature is not limited.

Storage Warranty: 12 months.

Incompatible Products: Oxidizers, acids, alkalis.

Packing: 4 - 6 ply paper bags, cardboard-wound drums with polyethylene liner.

Transport Type: Railway, road.

Labelling: T Symbol UN Hazard Class: 9

R: 20/21/22-36/37/38 UN Pack Group: III

S: 26-36/37/39

NFPA Ratings: H 1; F 1; R 0

* **Register Status:** EINECS (EU), ENCS (Japan), ECL (Korea), TSCA (USA), DSL (Canada), AICS

(Australia), PICCS (Philippines).

Quality Data:

Appearance Powder from white to yellow-green color.

Presence of pink clots is possible

Assay, %, min 99,0

Dyeing stability during analysis with
potassium permanganate, minutes, min 30
Water content, % , max 0,3
Sulfate ash content, %, max 0,3

SULFAMIC ACID

Specs. 2121-400-05763441-2002

Chemical Name: Amidosulfonic acid

Synonyms & Trade Names: Aminosulfonic acid; Sulfuric acid monoamide; Sulfamic acid;
Amidosulfonic acid; Sulfamidic acid.

Structural Formula:

Empirical Formula: $\text{NH}_2\text{SO}_3\text{H}$ ¹ **RTECS:** WO5950000

Molecular Mass: 97.09 ¹ **UN:** 2967

¹ **EC:** 2262188

CAS Number: 5329-14-6 ¹ **ICSC:** 0328

H.S. Code: 2811 19 800 0 ¹ **EC-Index:** 016-026-00-0

Application:

for cleaning industrial equipment from mineral deposits (water hardness salts, oxide films, ferro compounds), from lactic and beer deposits, carbonate scale;
in pulp-and paper industry for paper making machine cleaning;
in public catering establishments and in household for tableware and kitchen utensils treatment;
in detergents formulations;
as raw material in chemical synthesis;
in herbicides production.

Other application:

as additive while cellulose bleaching;
dyeing and handling of wool;
as a component of light-sensitive layers in the process of film development;
for slime removal from water cooling systems (basins);
in oil production for stratum zone treatment;
for broad leave bushes regulation in spring.

Storage Conditions: Store indoors in original sealed packing.

Storage Warranty: 6 months.

Incompatible Products: Water, oxidizers, alkalis.

Packing: 40 dm³ steel drums.

Transport Type: Road, railway.

Labelling: Xi Symbol UN Hazard Class: 8

R: 36/38-52/53 UN Pack Group: III

S: 26-28-61 RID/ADR 8/16c

Transport Emergency Card: TEC (R)-80G9c

Quality Data:

Assay, %, min 95

Sulfate-ion content, %, max 3,0

Water-insoluble impurities content, %, max 0,2

DIMETHYL PHOSPHITE

Specs. 2435-430-05763441-2004

Chemical Name: Dimethyl phosphite

Synonyms & Trade Names: Dimethyl Hydrogenphosphite; Dimethyl ester of phosphorous acid; Dimethylhydrophosphite; Bis(hydroxymethyl)phosphine oxide; Dimethoxyphosphine oxide; Dimethyl acid phosphite; Dimethyl hydrogen phosphite; Dimethyl hydrogen phosphonate; Dimethyl phosphite; Dimethyl phosphonate; Dimethyl phosphorous acid; Hydrogen dimethyl phosphite; Dimethylester kyseliny fosforite (Czech); Dimethylfosfit (Czech); Dimethylfosfonat (Czech); Methyl phosphonate ((MeO) 2HPO); NCI - C54773.

Structural Formula:

Empirical Formula: C₂H₇O₃P

Molecular Mass: 110.05 ¹ **RTECS:** SZ7710000

CAS Number: 868-85-9 ¹ **UN:** 2810

H.S. Code: 2920 90 200 0 ¹ **EC:** 2127838

Application: as intermediate in production of pesticides, fire retardants, pharmaceuticals and other organophosphorus preparations.

Storage Conditions: Store indoors in tightly closed containers under inert gas blanket away from direct sunlight.

Storage Warranty: 3 months.

Incompatible Products: Oxidizers, acids, alkalis.

Packing: Tank-containers.

Transport Type: Road, railway.

Labelling: Xn Symbol UN Hazard Class: 6.1

R: 10-36/37/38-40 UN Subsidiary Risk: 3

S: 16-26-36/37/39-45-53 UN Pack Group: III

Toxic Liquid

Quality Data:

Appearance Transparent colorless liquid without mechanical impurities.

Opalescence (turbidity) is possible

Assay, %, min 99,0

Impurities content (including monomethyl ester of phosphorous acid and methanol), %, max 1,0

Inhibitor of Mineral Salts Deposits IOMS-1 (Scale Inhibitor IOMS-1)

Aqueous Solution of Nitrilotrimethylphosphonic Acid Sodium Salt

Specs. 2439-369-05763441-2003

Chemical Name: Na-salt of aminomethylenephosphonic acids

H.S.Code: 2931 00 950 0

Application: as a complexing reagent in antiscaling compounds of industrial use, in systems of heat supply for water

treatment used for boilers feeding in power engineering and industry, in circulating cooling systems.

Storage Conditions: Store indoors or under a shed or in rubberized containers. Minimum storage temperature minus 30 °C.

Storage Warranty: 18 months.

Packing: Railway cisterns, tank trucks, 220 l polyethylene barrels.

Transport Type: Railway, road.

Labelling: R: 36 UN Hazard Class: not classified as dangerous goods
S: 36

Quality Data:

Appearance Homogeneous liquid
from colorless to yellow-green color.

Precipitation is possible

Assay, %, min 25,0

Phosphates (Ð14) content*, %, max 1,8

Complexing ability (passivation property):

on calcium carbonate, mg CaCO₃/1 g of IOMS-1, min 150

on calcium sulfate, mg CaSO₄/1 g of IOMS-1, min 150

pH of water solution 5,5 - 7,5

*is determined on request.

NITRILOTRIMETHYLPHOSPHONIC ACID

Specs. 2439-347-05763441-2001

Chemical Name: Nitritotris[methylene]triphosphonic acid

Synonyms: Amino thrimethylenephosphonic (ATMP) acid; Aminotri(methylphosphonice acid);

Nitritotrimethylphosphonic (NTP) acid; Nitritotris(methylphosphonic acid);

Aminotris(methanephosphonic acid); Phosphonic acid, (nitritotris(methylene))tris-

Trade Names: Briquest 301-500 Dowell L 37 NTPA

Briquest 301-50A (Rhodia) Ferrofos 509 Sequion 20H45 (Bozetto)

Budex 5130 Masquol P 200 Sequion OA

Dequest 2000 (Solutia) Mayoquest 1320 Tris(phosphonomethyl)amine

Dequest 2000 LC(Solutia) NTF Turpinal MD2

Dequest 2001 NTMP

Empirical Formula: C₃H₁₂NO₉P₃

Molecular Mass: 299.07 ¹ **RTECS:** SZ9860000

CAS Number: 6419-19-8 ¹ **UN:** 3261

H.S. Code: 2931 00 950 0 ¹ **EC:** 2291465

Application :

in oil production as a regulator of physico-chemical properties of drilling and plugging solutions;

in construction to reduce time of concrete mixture setting in monolithic and precast ferroconcrete production;

in heat and power engineering as salts inhibitor in different heat exchangers;

in pulp and paper industry in the process of cellulose bleaching at chelation stage.

Storage Conditions: Store packed in dry storage rooms.

Storage Warranty: 36 months.

Packing: 30kg cardboard wound drums with PE liner, paper bags with PE liner.

Transport Type: Railway, road.

Labelling: Ñ Symbol UN Hazard Class: 8

R: 34 UN Pack Group: II

S: 26-36/37/39-45 RID/ADR UN 3261 8/39b

Quality Data :

Appearance Colorless or slightly greenish crystalline powder
Assay, %, min 90
Chlorides content, %, max 2,7
Loss on drying, %, max 7

OXYETHYLIDENEDIPHOSPHONIC ACID

(OEDP Acid)

Specs. 2439-363-05763441-2002

Chemical Name: 1-Hydroxyethylidenediphosphonic acid

Synonyms & Trade Names: Hydroxyethane-1,1-diphosphonic acid; 1-

Hydroxyethanediphosphonic acid;

1,1,1-Ethanetriol diphosphonate; 1-Hydroxy-1,1-diphosphonoethane; Ethane-1-hydroxy-1,1-diphosphonate;

Phosphonic acid, (1-hydroxyethylidene) di-; Phosphonic acid, (1-hydroxyethylidene) bis-;

Phosphonic acid,

1-hydroxy-1,1-ethanediyl ester; 1000SL; Dequest 2010 (Solutia); Dequest 2015; Dequest Z 010;

EHDP; Etidronic acid;

Ferrofos 510; HEDP; Sequion 10H60 (Bozetto); Turpinal SL.

Empirical Formula: C₂H₈O₇P₂

Molecular mass: 206.04 ¹ **RTECS:** SZ8562100

CAS Number: 2809-21-4 ¹ **UN:** 3077

H.S. Code: 2931 00 950 0 ¹ **EC:** 2205528

Application:

in oil-production as an inhibitor of salts deposits;

in chemical and textile industry as a complexing reagent;

in agriculture to control plants diseases;

as a complexing reagent and an inhibitor of salts deposits in water circulation systems of cooling of industrial facilities and thermal power stations, in systems of hot water supply, in closed systems of heat

supply; also as a reagent for salts deposits washing at different industrial facilities.

in pulp and paper industry for cellulose bleaching at the stage of chelation.

Storage conditions: Store indoors in dry place in original packing, max and min storage temperature is not limited.

Storage Warranty: 12 months.

Incompatible products: Organic substances and alkalis.

Packing: 16 kg cardboard wound drums with polyethylene liner.

Transport type: Road, railway.

Labelling: Xi Symbol UN Hazard Class: 9

R: 22-41 UN Pack Group: III

S: 26-39

Quality Data:

Appearance Powder of white color with greyish or beige shade

Assay in dry product, %, min 97

Loss on drying, %, max 2

Iron content*, %, max 0,02

*is determined in the product used in power-engineering.

REAGENT PAPH-13A

Specs. 2439-360-05763441-2001

Chemical Name: Poly(aminomethylenephosphonates)

Empirical Formula: $R_2N[(CH_2)_2NR]_nR$, $R=CH_2P(O)(OH)(ONa)$, $n=1 - 3$

H.S. Code: 2931 00 950 0 ¹ UN 2922

Application:

in oil production industry to prevent or to limit deposits of difficultly soluble compounds (mainly carbonates) in the process of oil production, preparation and transportation;
for prevention or limitation of deposits of difficultly soluble compounds (mainly carbonates) in heat exchangers,
in systems of hot water supply of open and closed type at temperature up to 130 °C;
in pulp-and-paper industry as a stabilizer of hydrogen peroxide properties while cellulose bleaching instead of sodium silicate;
in the process of highly mineralized water utilization.

Storage Conditions: Store packed in dry storage rooms. Avoid contact with moisture and dust.

Storage Warranty: 12 months.

Packing: Railway cisterns, 220 litre polyethylene barrels.

Transport Type: Railway, road.

Labelling: UN Hazard Class: 8 UN Pack Group: III

ORGANOPHOSPHORUS PRODUCTS

Quality Data:

Brand A Brand B

Appearance Aqueous solution from light orange to brown color

Total phosphorus content, %, min 5 2,5

Formaldehyde content, %, max 1 -

đÍ 4 - 6 4 - 6

Dynamic viscosity at 25 °Ñ, mPà.s, max - 10

Freezing point, °Ñ, not higher - minus 40

Inhibition efficiency on calcium carbonate, %, min 65 50 - 100

Note: Determination of formaldehyde content is obligatory in case of the reagent use as antiscaling compound in systems of water freshening and systems of hot water supply of open and closed type.

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Quality Data:

Brand B

Appearance Viscous non transparent liquid from colorless to light brown color.

Layering with negligible precipitation is possible while storing

Content of:Phosphorus, % 2,0 - 3,5

Potassium, % 3,0 - 5,5

Iron, %, max 0,05

Water, %, max 12

ǒÍ of 1 % water solution 6 - 8

Storage Conditions: Store indoors in sealed tare. Avoid contact with moisture and dust.

Storage Warranty: 12 months.

Packing: 220 l polyethylene barrels.

Transport Type: Railway, road.

SURFACE-ACTIVE SUBSTANCE OXYPHOS B

Specs. 2484-344-05763441-2001

Chemical Name: Bis(alkylpolyoxyethylene)phosphates potassium salts, surfactants

Empirical Formula: $[C_nH_{2n+10}(C_2H_4O)_m]_2P(O)OK$, $n=8 - 10$, $m=6$

H.S. Code: 2919 00 900 0

Application:

in chemical industry as antiadhesion additive in production of cleansing agents of industrial and household use;

in oil production as an inhibitor of asphalt resin and paraffin deposits in oil pipelines;

as a lubricator in different branches of industry;

in leather and fur industry as a filler of wetting, degreasing and cleansing agent with antistatic effect;

in production of laminated plates for furniture.

ELECTROINSULATING ORGANOSILICON VARNISH KO-921

Solution of Polymethylphenylsiloxane Resin in Toluene

GOST 16508-70

Trade Name: Siliconorganic varnish type KO-921

H.S. Code 3208 90 910 0 ¹ **UN:** 1263

Application:

for impregnation of wires and cables glass braid;

as heat resistant impregnating and covering material used at temperature up to 250 °Ñ;

for electric machines and apparatus protection from moisture and moulds;

for electric machines and apparatus isolation;

for heat-resistant, organosilicate, electroinsulating enamels production.

Features:

reduced temperature of drying;

dielectric;

moisture and mould resistant.

Quality Data:

Appearance Homogeneous transparent solution

without mechanical impurities.

Opalescence is possible

Non volatiles content, % 48 - 52

Relative viscosity on viscosimeter VZ-4, s 17 - 27

Time of varnish film drying up to stage 3, minutes, max 15

Hydrogen bound with silicon, %, max 0,0010

Varnish film thermoelasticity, h, min 75
 Specific volume electric resistance of varnish film, $\Omega \cdot m$, min
 \dot{I} (15 - 35 °Ñ) 45 - 75 % $1 \cdot 10^{12}$
 \dot{I} (180 °Ñ) < 20 % $1 \cdot 10^{10}$
 \dot{I} (200 °Ñ) < 20 % -
 24 h (23 °Ñ) 93 % $1 \cdot 10^{11}$
 Varnish film electric strength, MV/m, min
 \dot{I} (15 - 35 °Ñ) 45 - 75 % 70
 \dot{I} (180 °Ñ) < 20 % 35
 \dot{I} (200 °Ñ) < 20 % -
 24 h (23 °Ñ) 93 % 35
 Varnish optical density, max 0,5
Storage Conditions: Store in original tare at temperature from +5 to +30 °Ñ.
Storage Warranty: 12 months.
Packing: Steel barrels.
Transport Type: Railway, road.
Labelling: UN Hazard Class: 3 UN Pack Group: I

ENAMEL KO-8104

**Suspension of Pigments, Fillers and Special Additives
 in Organosilicon Resin Solution Modified with Acryl Copolymer**

Specs. 6-00-04691277-42-96

Synonyms & Trade Names: Organosilicon enamel KO-8104, thermostable, silverygrey.

H.S. Code 3208 90 910 0 ¹ **UN:** 1263

Application:

for painting of metal, concrete, asbestos cement surfaces used indoors, outdoors and at temperature:
 brand A - up to 400 °C, brand B - up to 600 °C;
 for drinking and hot water pipes and capacities protection;
 for painting of railway cisterns, capacities for highly flammable liquids, metal constructions and
 metal roofs, chemical
 plants equipment, parts of different engines, car exhaust pipes, rectifying columns, pipelines,
 heaters, stacks and
 incinerators.

Quality Data:

Brand A Brand B

Enamel film color Silveró-grey

Relative viscosity on viscosimeter type VZ-246

with nozzle diameter 4,0 mm at 20 ± 2 °Ñ, sec., min 25 25

Non volatiles content, % 40 ± 5 40 ± 5

Time of enamel drying up to stage 3, h, max at:

20 ± 2 °Ñ 2,0 2,0

150 ± 2 °Ñ 0,5 0,5

Enamel film heat resistance, h, min, at:

400 ± 5 °Ñ 3 -

600 ± 5 °Ñ - 3

Film resistance to alternative influence of heating at 400 ± 5 °Ñ

and water, cycles, min 5 -
 Film adhesion, units, max 21 11
 Rigidity of film on pendulum device
 type TML; M-3, ME-3, relative units, min 0,4 0,4
 Film impact-bending strength on device U-1, cm, min 40 40
 Film resistance to salty fog, h, min 96 96
 Film resistance at 20 ± 2 °Ñ, h, min to static impact of:
 water 96 96
 benzine 24 24
 mineral oil 24 24
 Film resistance to static impact of mineral oil at 100 ± 5 °Ñ, h, min 5 5
Storage Conditions: Store indoors in tightly closed vessels, storage temperature is not limited.
Storage Warranty: 12 months.
Incompatible Products: Oxidizers, acids, alkalis, water.
Packing: 40 dm³ steel barrels.
Transport Type: Railway, road.
Labelling: UN Hazard Class: 3 UN Pack Group: I

ETHYLSILICATE – 40

Homogeneous Mixture of Oligoethoxysiloxanes

GOST 26371-84

Chemical Name: Ethylsilicate - 40

Structural Formula:

Empirical Formula: $\text{RO}[-\text{Si}(\text{OR})_2\text{O}]_m\text{-R}$, $\text{R}=\text{C}_2\text{H}_5$

H.S. Code: 3824 10 000 0 **Brand A** - ¹ **UN:** 1993 **Brand B** - ¹ **UN:** 3082

Application:

in foundry as raw material for binder production while ceramic forms manufacturing;
 as a binder in heat-, chemical- and weather resistant coatings and in other fields where after
 hydrolysis in alkali medium,
 drying and calcination it's necessary to produce rigid material, insoluble in water, resistant to high
 temperatures
 and not corroding;
 in medicine as a binder in the process of artificial teeth making;
 in construction for wood impregnation in order to make it resistant to bacteria;
 to improve quality of rosin varnishes;
 in leather industry for tanning of dehydrated leather.

Quality Data:

Brand A Brand B

Optical density at wave length, max

400 nm 0,5 0,5

670 nm 0,1 0,1

SiO₂ content, % 40 - 42 40 - 42

Tetraethoxysilane content, % 10 - 15 10 - 15

Density at 20 °Ñ, g/cm³ 1,05 - 1,07 1,05 - 1,08

Time of gelation, minutes 180 - 280 min 180

Hydrogen chloride content, %, max 0,02 0,01

Ethyl alcohol content, %, max 1,5 0,15

Freezing point, °Ñ, not higher minus 60 -

Kinematic viscosity at temperature 20 °Ñ, sSt 3,5 - 6,0 -

Storage Conditions: Store indoors in original packing at temperature not higher 40 °C away from open flame.

Storage Warranty: 12 months.

Packing: 220 l polyethylene or steel barrels.

Transport Type: Railway, road.

Labelling: R: 10-20/21/22 UN Hazard Class: **Brand A** - 3, **Brand B** - 9

S: 16-23/25-33/37/39 UN Pack Group: III

ORGANOSILICON VARNISH KO-075

Polymethylphenylsiloxane resin solution, modified with pentaphthalic varnish, in organic solvent (toluene, xylene, solvent-naphtha)

Specs. 2311-4626-05763441-2004

Synonyms & Trade Name: Siliconorganic varnish type KO-075; Organosilicon varnish KO-075.

H.S. Code 3208 90 910 0 ¹ **UN:** 1263

Application:

in production of enamels, paints of general use. Mixture of pentaphthalic, perchlorovinyl, nitroenamels with varnish

KO-075 improves their strength, water-, heat- and- light resistance, water repellency, gloss and rigidity;

in production of heat resistant enamel used to coat parts operating at temperature up to 500 °C; to prevent from corrosion outward surfaces of gas-conduits, chlorinators, steam and gas turbines, ejectors, different

units of agricultural machines, air-driers, chemical traps, coal-tar chemical industry equipment; for painting motor radiators and other parts and equipment operating at temperature 350 - 400 °C; as anticorrosive coating of inner surfaces of steam and water tanks operating at temperature 150 - 160 °C;

for sizing and finishing of artificial leather; to improve acid resistance of protective clothes, to improve rigidity, heat-andwear

resistance of filtering fabrics;

as a separating covering in production of glass and plastics.

Quality Data :

Appearance Transparent liquid

from light yellow to dark brown color.

Opalescence and presence of mechanical

impurities due to metal tare is possible

Non volatiles content, % 34 - 40

Acid value, mg ÊÏ/g, max 6

Storage Conditions: Store in tightly closed containers in ventilated store rooms or in special storage areas at ambient temperature (± 40 °C).

Storage Warranty: 12 months.

Incompatible Products: Oxidizers, acids, alkalis, water.

Packing: Railway cisterns, 275 litre steel drums.

Transport Type: Railway, road.

Labelling: R: 11-36/38-40/22 UN Hazard Class: 3
S: 7-15-36/37/39 UN Pack Group: I

ORGANOSILICON VARNISH KO-916K

Trade Name: Siliconorganic varnish type KO-916K

H.S. Code 3208 90 910 0 ¹ **UN:** 1263

Application:

Brand A - for impregnation of electrical machines and apparatus windings with heat resistance of class H;

Brand B - for protection and decoration of metal surfaces.

Features:

effective impregnation ability due to min viscosity and low surface tension;

varnish film fast drying;

effective adhesion to metal surfaces;

cements well separate turns and layers of winding and isolation;

forms glossy, rigid and firm film;

high thermal conductivity;

harmless to copper and isolation of enameled wires;

moisture and water repellant;

preserves thermoelasticity while long heating of isolation in the process of electric machines running;

heat resistant (class H);

dielectric;

adhesive;

dielectric property and corona resistance practically are not influenced by high temperature and moisture.

Quality Data:

Brand A Brand B

Appearance Homogeneous transparent solution
without mechanical impurities.

Opalescence is possible

Varnish optical density, max 1,0 1,0

Non volatiles content, % 66 ± 2 66 ± 2

Relative viscosity 45 - 65 45 - 65

Time of varnish film drying up to stage 3 at 200 ± 5 °Ñ, minutes, max 15 15

Thermoelasticity of varnish film at 200 ± 5 °Ñ, h, min 50 50

Cementing ability of varnished coating at 20 ± 5 °Ñ, N (êg), min 294 (30) 294 (30)

Electric strength of varnish film, MV/m, min

R; Ì (15 - 35°Ñ) 45 - 75 % 75 -

R; Ì (200 °Ñ) < 20 % 50 -

24 h (23 ìÑ) 93%; Ì (15 - 35 °Ñ) 45 - 75 % 50 -

Specific volume electric resistance of varnish film, Om m, min

R; Ì (15 - 35 °Ñ) 45 - 75 % 1,0·10¹³ -

R; Ì (200 °Ñ) < 20 % 1,6·10¹⁰ -

24 h (23 ìÑ) 93%; Ì (15 - 35 °Ñ) 45 - 75 % 1,5·10¹² -

Storage Warranty: 6 months.

Packing: 275 dm³ zink-coated or steel barrels; 250 dm³ aluminium barrels; 40 dm³ steel drums.

Transport Type: Railway, road.

Labelling: UN Hazard Class: 3 UN Pack Group: I

Solution of Polyorganosiloxane Resin Modified with Polyester in Xylene

Specs. 2311-396-05763441-2003 22

PHENYLTRICHLOROSILANE

Specs. 6-00-04691277-27-97

Chemical Name: Phenyltrichlorosilane

Synonyms: Phenylsilicon Trichloride; Phenyltrichlorosilane (DOT); Silane, Phenyltrichloro-; Silicon Phenyl Trichloride; Trichlorophenylsilane.

Trade Names: UN1804 (DOT); Dow Corning(R) product Z-1216.

Structural Formula:

Empirical Formula: C₆H₅SiCl₃ ¹ **RTECS:** VV6650000

Molecular Mass: 211.55 ¹ **UN:** 1804

CAS Number: 98-13-5 ¹ **EC:** 2026408

H.S. Code: 2931 00 950 0 ¹ **EINECS:** 202-640-8

Application: as initial monomer in synthesis of organosilicon resins, thermo-and electroinsulating varnishes, lubricating oils, rubbers, and other polymeric organosilicon products.

Quality Data:

Appearance Transparent colorless or slightly colored liquid.

Opalescence and presence of mechanical impurities

due to steel tare is possible

Assay, %, min 99,3

Impurities content, %, max 0,7

including:

diphenyl, % 0,15

total content of impurities containing hydrogen, %

(trichlorosilane, phenyldichlorosilane) 0,2

Storage Conditions: Store in sealed containers in dry well ventilated rooms.

Max storage temperature +50 °C, min storage temperature is not limited.

Avoid contact with water and moisture.

Storage Warranty: 12 months.

Incompatible Products: Oxidizers, water.

Packing: Railway cisterns, specialized containers, steel barrels.

Transport Type: Road, railway.

Labelling: Xi Symbol UN Hazard Class: 8

R: 34-23 UN Pack Group: II

S: 26-28-36/37/39-45 RID/ADR 8/36b

Labers: Corrosive

SILICONE TETRACHLORIDE

Specs. 2152-420-05763441-2003

Chemical Name: Tetrachlorosilane

Synonyms & Trade Names: Tetrachlorosilane; Silicon tetrachloride; Silicon chloride; Dow Corning® product Z-1228.

Structural Formula:**Empirical Formula:** SiCl_4 ¹ **RTECS:** VW0525000**Molecular Mass:** 169.89 ¹ **UN:** 1818¹ **EC:** 2330540**CAS Number:** 10026-04-7 ¹ **ICSC:** 0574**H.S. Code:** 2812 10 990 0 ¹ **EC-Index:** 014-002-00-4**Application:** for production of orthosilicic acid esters and other compounds, also high dispersed silicon dioxide.**Quality Data:**

Appearance Transparent liquid from colorless to light yellow color

Silicon tetrachloride content, %, min 99,5

Total impurities content, %, max 0,5

including:

dichlorosilane absent

trichlorosilane 0,1

benzene 0,2

non identified admixtures 0,2

Iron content, %, max 0,001

Storage Conditions: Store in sealed vessels in dry non heated storage rooms or under a shed.

Avoid contact with direct sunlight and moisture.

Storage Warranty: 6 months.**Incompatible Products:** Oxidizers, water.**Packing:** Railway steel cisterns of chlorine type.**Transport Type:** Railway, road.**Labelling:** Xi Symbol UN Hazard Class: 8

R: 14-36/37/38 UN Pack Group: II

S: 7/8-26 RID/ADR 8/12d

NFPA Code: H3; F0; R2; W

TETRAETHOXYSilANE

Specs. 2435-419-05763441-2003**Chemical Name:** Tetraethoxysilane**Synonyms & Trade Names:** Tetraethyl ester of orthosilicic acid; orthosilicic acid tetraethyl ester;

Tetraethylsilicate;

Ethyl silicate; Tetraethyl orthosilicate.

Structural Formula:**Empirical Formula:** $(\text{C}_2\text{H}_5\text{O})_4\text{Si}$ ¹ **RTECS:** VV9450000**Molecular mass:** 208.33 ¹ **UN:** 1292¹ **EC:** 2010838**CAS Number:** 78-10-4 ¹ **ICSC:** 0333**H.S. Code:** 2920 90 850 0 ¹ **EC-Index:** 014-005-00-0**Application:**

in production of investment casting for binding solutions preparation while ceramic forms manufacturing;

as a binder in heat-, chemical- and weather-resistant coatings and in other fields where after hydrolysis in alkaline

medium, drying and calcination it's necessary to produce rigid, hard material insoluble in water, heat resistant and non corroding;
in medicine as a binder while artificial teeth making;
in construction for wood impregnation in order to make it resistant to bacteria;
in chemical industry for production of reactive silicon dioxide and ethylsiloxane liquids;
in optical industry for fibrous optical materials production.

Quality Data:

Appearance Transparent liquid.

Presence of mechanical impurities
due to metal tare is allowed

Assay, %, min 98,5

Optical density at wave length 400 nm, max 0,8

Density at 20 °N, g/cm³ 0,93 - 0,94

Chlor-ion content, %, max 0,02

Content of impurities (ethyl alcohol, monochloroester, non identified impurities, dimer, trimer), %, max 1,5
including ethyl alcohol, %, max 0,65

Storage Conditions: Store indoors in sealed containers. Storage temperature from minus 40 °C to plus 40 °C.

Storage Warranty: 12 months.

Incompatible Products: Oxidizers.

Packing: Stainless steel railway cisterns, containers and 250 litre barrels.

Transport Type: Railway, road.

Labelling: Xn Symbol UN Hazard Class: 3

R: 10-20-36/37 UN Pack Group: III

RID/ADR 3/31c

TRICHLOROSILANE TECHNICAL

Specs. 2437-443-05763441-2004

Chemical Name: Trichlorosilane

Synonyms & Trade Names: Trichloromonosilane, Silane trichloride, Silicochloroform.

Structural Formula:

Empirical Formula: Cl₃HSi ¹ **RTECS:** VV5950000

Molecular Mass: 135.47 ¹ **UN:** 1295

¹ **EC:** 2330425

CAS Number: 10025-78-2 ¹ **ICSC:** 0591

H.S. Code: 2851 00 800 0 ¹ **EC-Index:** 014-001-00-9

Application: as main raw material in manufacturing of phenyltrichlorosilane and other compounds used for heat-and-electroinsulating

varnishes, resins, water-repellent fluids, lubricating oils production.

Storage Conditions: Store in sealed steel vessels or cisterns under nitrogen in well ventilated storage rooms

away from open flame. Avoid contact with water and moisture.

Storage Warranty: Brand A - 12 months, brand B - 3 months.

Incompatible Products: Oxidizers, water.

Packing: Tank-containers.

Transport Type: Railway, road.

Labelling: F Symbol UN Hazard Class: 4.3

R: 12-14-17-20/22-29-35 UN Subsidiary Risks: 3 and 8

S: 7/9-16-26-36/37/39-43-45 UN Pack Group: I

RID/ADR 4.3/1a

Transport Emergency Card: TEC (R)-43G11

NFPA Code: H3; F4; R2; W

Quality Data:

Appearance ` Colorless liquid without
mechanical impurities

Trichlorsilane content, %, min 99,5

Silicon tetrachlorilide content, %, max 0,25

Dichlorosilane, content, %, max 0,05

Iron total content, mq/kq, max 1

26 CHEMICALS FOR POLYMERIC MATERIALS

ACETONANILE TMQ

Chemical Name: Polymerized 2,2,4-trimethyl-1,2-dihydroquinoline.

Synonyms: 1,2-dihydro-2,2,4-trimethylquinolin oligomers; Acetonanil; Acetonanyl; Acetone Anil; DHMQ;

Hydro-2,2,4-trimethylquinoline oligomers; Poly(1,2-dihydro-2,2,4-trimethylquinoline); TMDQ; TMQ; Trimethyldihydroquinoline polymer; Polymerized 1,2-Dihydro-2,2,4-trimethylquinoline.

Trade Names: Accinox (ICI India Ltd.); Anox HB (Great Lakes Chemical Co.); Agerite TMQ (Vanderbilt);

Antioxidant DQ (Akrochem Corp.); Antioxidant RD (Nanjing Chemical Plant); Flectol TMQ (Flexsys N.V./Harwick); Matoflex TMQ (Materia Vegyipari Szovetkezet); Naugard Q (Uniroyal Chemicals/Crompton); Nocrac 224 (Seiko Corp.); Pilnox TDQ (NOCIL); Rubatan 184 (General Quimica S.A.); Vulkanox HS/LG (Bayer A.G.).

Structural Formula:

Empirical Formula: (C₁₂H₁₅N)_n

CAS Number: 26780-96-1 ¹ **EINECS:** 205-688-8

H.S. Code: 3812 30 200 0

Application:

Antioxidant and antideteriorant in the production of rubber compounds for tyres, tyres retreads, latex products and technical rubber articles (tubes, insulating electric wires & cables, belts, steam hoses, break linings, oil seals, rubber footwear) based on NR, polyisoprene, SBR, EPR/EPDM, NBR, polybutadiene to enhance their thermal, light and strain resistance;

Inhibitor of oxidation catalyzed by copper and manganese;

Excellent antiozonant for CR.

Granulated

Specs. 6-00-04691277-202-97

Quality Data:

Property guaranteed value

Appearance Glassy granules from light brown to dark brown color

Softening point, °N, not below 79

Assay, %, min 82,0

Ash content, %, max 0,3

Mass fraction of primary amines, %, max 7,0

Mass fraction of volatiles, %, max 0,15

Isopropyl bis-aniline content, %, max 0,5

Monomer content, %, max 2,5

Dimer content, %, min 15,0

Oligomers total, %, min 35

Storage Conditions: Store indoors away from open flame. Max storage temperature + 40 °C.

Storage Warranty: 12 months.

Incompatible Products: Oxidizers, acids, alkalis.

Packing: 25 kg multilayer paper bags, palletized (900 kgs net/pallet).

Transport Type: Railway, road.

Labelling: R: 52/53

S: 61

N: Symbol

CHEMICALS FOR POLYMERIC MATERIALS 27

DIPHENYLGUANIDINE

Chemical Name: 1, 3- Diphenylguanidine

Synonyms: 1,3-Difenyguanid; Diphenylguanidine; DFG; DPG; DPG-accelerator; 1,3-Difenyguanid

Guanidine; Melaniline; N,N'-Diphenylguanidine; sym-Diphenylguanidine.

Trade Names: Accelerator D (Zhenjiang Zhenbang Chemical Co., Ltd); Accelerator DPG (Linhai Co.,

Rokem Group, China); Denax DPG (Lucebni zavody Draslovka a.s. Kolin); Kumac (Monsanto); Kumac D (Kumho Inc., S. Korea); Perkacit DPG (Flexsys N.V., Belgium); Soxinol (Sumitomo Corp.); Vanax DPG (R.T. Vanderbilt Co. Inc.).

Structural Formula:

Empirical Formula: C₁₃H₁₃N₃/ (C₆H₅NH)₂C=NH

Molecular Mass: 211.27

CAS Number: 102-06-7 ¹ **UN:** 3077

H.S. Code: 2925 20 000 0 ¹ **EINECS:** 203-002-1

¹ **EC-Index:** 612-149-00-4

Application:

Middle speed vulcanization accelerator, suitable for natural and synthetic rubber. With bitter taste, not suitable for

products connected with foodstuffs. Mostly used for dark or black color products (tyres, footwear, mechanical goods,

hard rubber products, adhesives, condoms and diaphragms, rubber and latex gloves, medical devices, renal dialysis

equipment, rubber in elasticized undergarments and clothing, rubber pillows, sponges, toys);

Secondary accelerator in combination with thiazoles (MBT, MBTS), thiuram or sulfenamides in NBR and SBR compounds

provides good scorch and storage stability;
Acts as plasticizer on chloroprene rubber.

Quality Data:

Property Value Test method

Appearance Cylindrical granules Visual

Assay, %, min 97 Titration

Melting temperature, initial oC, min 145,0 Capillary method

Melting temperature, final oC, max 148,0 ± 2,0 Capillary method

Dedusting agent (paraffinic oil) content, %, max 1,1 - 2,0 Extracting

Ash content, %, max 0,3 At 750 °C

Mass fraction of volatiles, %, max 0,3 2 hours, 70 °Ñ

Storage Warranty: 12 months.

Packing: 19 kgs multilayer paper bags with polyethylene lining, palletized (399 kgs net/pallet) or in bulk, 680 kgs FIBC.

Transport Type: Road.

Labelling: Xn Symbol UN Hazard Class: 9

N Symbol UN Pack Group: III

R: 22-36/37/38-62-51/53

S: 26-36/37/39-61

Granulated

Specs. 2491-001-43220031-2001

28 CHEMICALS FOR POLYMERIC MATERIALS

Powder

Specs. 2491-001-43220031-2001

DIPHENYLGUANIDINE

Chemical Name: N, N' - Diphenylguanidine

Synonyms: 1,3-Difenylguanid; 1,3-Diphenylguanidine; Diphenylguanidine; DFG; DPG; DPGaccelerator;

1,3-Difenylguanid; Guanidine; Melaniline; sym-Diphenylguanidine.

Trade Names: Accelerator D (Zhenjiang Zhenbang Chemical Co., Ltd); Accelerator DPG (Linhai Co.,

Rokem Group, China); Denax DPG (Lucebni zavody Draslovka a.s. Kolin); Kumac (Monsanto); Perkacit DPG (Flexsys N.V., Belgium); Soxinol (Sumitomo Corp.);

Vanax DPG (R.T. Vanderbilt Co. Inc.).

Structural Formula:

Empirical Formula: C₁₃H₁₃N₃/ (C₆H₅NH)₂C=NH

Molecular Mass: 211.27

CAS Number: 102-06-7 ¹ **UN:** 3077

H.S. Code: 2925 20 000 0 ¹ **EC:** 2030021

¹ **EC-Index:** 612-149-00-4

Application:

Middle speed vulcanizing accelerator, suitable for natural, synthetic rubber and in latex applications.

With bitter taste,

not suitable for products connected with foodstuffs. Mostly used for dark or black products (tyres, footwear, mechanical

goods, hard rubber products, adhesives, condoms and diaphragms, rubber and latex gloves, medical

devices, renal
dialyses equipment, rubber in elasticized undergarments and clothing, rubber pillows, sponges,
toys);
Secondary accelerator in combination with thiazoles (MBT, MBTS), thiuram or sulfenamides in
NBR and SBR compounds
provides good scorch and storage stability;
Acts as plasticizer on chloroprene rubber.

Quality Data:

Property Value Test method

Appearance Powder from white to light yellow Visual
or slightly lilac color

Assay, %, min 97 Titration

Melting temperature, initial °C, min 145,0 Capillary method

Melting temperature, final °C, max 148,0 ± 2,0 Capillary method

Dedusting agent (paraffinic oil) content, %, max 1,1 - 2,0 Extracting

Ash content, %, max 0,3 At 750 °C

Mass fraction of volatiles, %, max 0,2 4 hours, 70 °Ñ

Sieve residue, %, on sieve

¹ 014K (014Í) / 0,14 mm, %, max 0,005

¹ 0063 / 0,063 mm, %, max 0,2 sieve analysis

Storage Warranty: 12 months.

Packing: 15 ± 0,3 kgs multilayer paper bags with polyethylene lining, palletized (480 kgs net/
pallet) or in bulk, 750 ± 8 kgs FIBC.

Transport Type: Road.

Labelling: Xn Symbol, UN Hazard Class: 9

N Symbol UN Pack Group: III

R: 22-36/37/38-62-51/53

S: 26-36/37/39-61

CHEMICALS FOR POLYMERIC MATERIALS 29

DIPHENYLGUANIDINE

Chemical Name: N, N'- Diphenylguanidine

Synonyms: 1,3-Difenyguanid; 1,3-Diphenylguanidine; Diphenylguanidine; DFG; DPG;
DPGaccelerator;

1,3-Difenyguanid; Guanidine; Melaniline; sym-Diphenylguanidine.

Trade Names: Accelerator D (Zhenjiang Zhenbang Chemical Co., Ltd); Accelerator DPG (Linhai
Co.,

Rokem Group, China); Denax DPG (Lucebni zavody Draslovka a.s. Kolin); Kumac
(Monsanto); Kumac D (Kumho Inc., S. Korea); Perkacit DPG (Flexsys N.V., Belgium);
Soxinol (Sumitomo Corp.); Vanax DPG (R.T. Vanderbilt Co. Inc.).

Structural Formula:

Empirical Formula: C₁₃H₁₃N₃

CAS Number: 102-06-7 ¹ UN 3077

H.S. Code: 2925 20 000 0 ¹ **EINECS:** 203-002-1

¹ **EC-Index:** 612-149-00-4

Application:

Middle speed vulcanizing accelerator, suitable for latex applications (latex pillows, mattresses, gloves, condoms and diaphragms, undergarments and clothing);
Secondary gelling agent (foam stabilizer) in the silicofluoride foam process in latex;
Acts as plasticizer on chloroprene rubber.

Quality Data:

Property Value Test method

Appearance Powder from white to light yellow Visual
or slightly lilac color

Assay, %, min 98 Titration, ASTM D 5054-90

Melting temperature, initial °C, min 145,0 Capillary method

Melting temperature, final °C, max 148,0 ± 2,0 ASTM D 1519

Dedusting agent (paraffinic oil) content, %, max 0,6 Extracting

Ash content, %, max 0,25 At 750 °C, ASTM D 4574

Mass fraction of volatiles, %, max 0,2 2 hours, 70 °Ñ, ASTM 4571-94

Sieve residue at sieve 0,14 mm, %, max 0,005

Storage Warranty: 12 months.

Packing: 15 kgs multilayer paper bags with polyethylene lining stacked on pallets (480 kgs net/pallet) and 750 FIBC.

Transport Type: Road.

Labelling: Xn Symbol, UN Hazard Class: 9

N Symbol UN Pack Group: III

R: 22-36/37/38-51/53-62

S: 26-36/37/39-61

Latex powder

Specs. 2491-001-43220031-2001

30 CHEMICALS FOR POLYMERIC MATERIALS

TRIS-(2-CHLOROETHYL)-PHOSPHATE

Specs. 2493-319-05763441-2000

Chemical Name: Tris-(2-chloroethyl)-phosphate

Synonyms: Trichloroethylphosphate; Trichloroethyl ether of orthophosphoric acid;

Tris(2-chloroethyl) phosphate; Tri phosphate (2-chloride) ethyl;

Tris(2-Chloroethyl) ester phosphoric acid; Tris-(2-chloroethyl)fosfat (Czech);

Tris(2-Chloroethyl) ortophosphate; Tris(Chloroethyl) phosphate; TCEP;

Phosphoric acid, tris(2-chloroethyl) ester; 2-Chloroethanol Phosphate;

Ethanol, 2-Chloro-, Phosphate (3:1).

Trade Names: AI3-15023 CLP NCI-C60128

Amgard TCEP Disflamoll TCA (Bayer) Niox 3CF

Antiblaze TCEP(Rhodia) Fyrol CF Niox Flame Retardant 3CF

Celanese celluflex CEF Fyrol CEF (Akzo Nobel) Nuogard TCEP

Celluflex Genomoll P Tolgard TCEP

Celluflex CEF Hostaflam UP810

3CF Levagard EP

Empirical Formula: (CICH₂CH₂O)₃P(O)

Molecular Mass: 285.49 ¹ **RTECS:** KK2450000

CAS Number: 115-96-8 ¹ **UN: 2810**

H.S. Code: 2919 00 100 0

Application: as a flame retardant and a plasticizer in production of different polymeric materials.

Quality Data:

Appearance Transparent liquid
without mechanical impurities.

Colority on Pt-Co-scale, Hazen units, max 20

Density at 25 °N, g/cm³ 1,420 - 1,433

Dynamic viscosity at 25 °N, mPa. s 31 - 36

Acid value, mg $\hat{E}\hat{I}\hat{I}$ /g, max 0,05

Water content, %, max 0,07

Phosphorus content, %, max 10,3 - 11,3

Chlorine content, % 36,3 - 37,5

Refractive index at 25 °N 1,469 - 1,475

Storage Conditions: Store indoors in sealed packing, max and min storage temperature is not limited.

Storage Warranty: 6 months.

Incompatible Products: Oxidizers, acids and alkalis.

Packing: Tank-containers, Van Leer steel drums 245 kg net.

Transport Type: Railway, road.

Labelling: X, Poison Symbol(s) Hazard Class: 6.1

R: 22-40-51/53 UN UN Pack Group: III

S: 36/37-61 RID/ADR 6.1/25c

TRIS-(\hat{A} -CHLOROPROPYL)-PHOSPHATE

Specs. 2493-320-05763441-2000

Chemical Name: Tris-(2-chloropropyl)-phosphate

Synonyms: Trichloropropyl phosphate; tri-(2-chloropropyl ether of orthophosphoric acid);

Tris-[\hat{A} -chloropropyl]-phosphate; Tris(1-chloro-2-propyl)phosphate; 2-Propanol

1-chlorophosphate; 1-Chloro-2-propyl phosphate; Tris(1-chloromethylethyl)

phosphate; Tris(2-chloro-isopropyl)phosphate.

Trade Names: Disflamoll (Bayer) Antiblaze (Rhodia) TCPP

Fyrol (Akzo Nobel) TMCP TCIP

Empirical Formula: C₉H₁₈Cl₃ O₄P ¹ **UN: 3082**

Molecular Mass: 327.56 ¹ **EC: 2371587**

CAS Number: 13674-84-5 ¹ **EINECS: 237-158-7**

H.S. Code: 2919 00 900 0

Application: as a flame retardant in production of cable plasticizers, artificial leather, paint and varnish materials, linoleum, adhesive tape, photographic film, polyurethane foams.

Quality Data:

Appearance Transparent homogeneous liquid

Colority on Pt-Co-scale, Hazen units, max 40

Density at 25 °N, g/cm³ 1,282 - 1,294

Refractive index at 25 °N 1,4600 - 1,4660

Dynamic viscosity at 25 °N, mPa s 68 - 74

Acid value, mg \hat{E} l/g, max 0,05

Water content, %, max 0,07

Phosphorus content, %, max 9,1 - 10,0

Chlorine content, % 30,3 - 33,2

Storage Conditions: Store indoors in sealed packing, max and min storage temperature is not limited.

Storage Warranty: 6 months.

Incompatible Products: Oxidizers, acids and alkalis.

Packing: Tank-containers, Van Leer steel drums 215 kg net.

Transport Type: Railway, road.

Labelling: Xn Symbol UN Hazard Class: 9

R: 36/37-52/53 UN Pack Group: III

S: 36/37/39

CHEMICALS FOR POLYMERIC MATERIALS

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This list contains the main abbreviations which appear in the catalogue.

Abbreviations Designation

CAS Number CAS (Chemical Abstracts Service) Registry Number

EINECS The European Inventory of Existing Commercial Substances

ELINCS European List of Notified Chemical Substances

¹ **EC** EC Numbers is a term used to replace the outmoded "EINECS/ELINCS number" designation

¹ **EC-Index** Index number of products mentioned in the appendix I of the regulation (list of dangerous

materials and preparations according to paragraph 4a of the Dangerous Goods Regulation)

ICSC International Chemical Safety Cards

H.S. Code Harmonized system of labelling and coding goods in international trade

NFPA Code National Fire Protection Association

RTECS The Registry of Toxic Effects of Chemical Substances

UN United Nations (UN) Numbers

R and S Phrases R: Designation of Special Risks S: Safety Advice

TEC Transport Emergency Card

TSCA Toxic Substances Control Act

Hazard symbols

F Symbol Highly flammable

T Symbol Toxic

C Symbol Corrosive

Xn Symbol Harmful

Xi Symbol Irritating

N Symbol Dangerous for the environment

Transport Regulations

ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road

RID Regulations Concerning the International Carriage of Dangerous Goods by Rail