SM-SERVICE

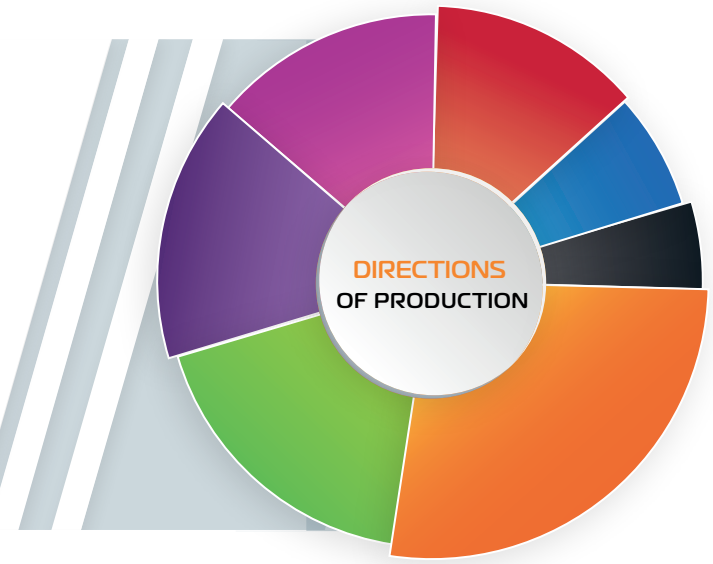
PROCESS MATERIALS

for aluminium industry

SM-Service is an advanced company in Russia that produces special chemical products for different branches of industry.

About us

The directions of manufacture:



27% ALUMINUM industry

18% FOOD industry

16% CONSTRUCTION industry

14% IRON AND STEEL industry

13% PULP AND PAPER industry

7% AGROCHEMICAL industry

5% MACHINE industry

The company's production facilities are located on the territory of the Russian Federation in Volzhsky, Volgograd region. Own production facilities and qualification of our employees allow us to produce a wide range of effective products.

Direct contracts and well-established partnership relations with leading freight and forwarding companies ensure timely deliveries of products to more than 60 constituents of the Russian Federation and CIS countries.

R&D center and QC department

R&D center is a team of the talented and highly qualified specialists of our company engaged in the development of the products according to the up-to-date requirements.

Our partners are the world manufacturers of raw materials with many years of experience in their fields.

Each batch of incoming raw materials and dispatched products is checked for compliance with the specified physical and chemical parameters in the **QC** laboratory.

Carrying out a comprehensive study of raw components, specifics of application, features of each production, we create a high-quality product for customers.

Production facilities

10 000
Tons of manufactured products in a year

250
Manufactured products

30
New products in a year

Our team

Our success is based on the strong, highly qualified team of specialists in various fields of industry, providing the sustained growth and confident progress of the company.

Our company's specialists provide the comprehensive technical support at the implementation stage and further operation of the products.

Alumina production

Defoamer

Synfom Mk19

Defoamer

Description

Synfom Mk19 is a highly effective defoamer for the mining industry. Based on self-emulsifying components, is silicone free. It has the properties of both a defoamer and a deaerator. Designed to reduce foam build up in the pulps of the residue decomposers and pulp supply of a number of red mud washing circuits and other hydrometallurgical processes.

Application

It is recommended for use in the pulp supply of the washing circuit in the hydrometallurgical processes aiming to reduce an air entrainment and foam build-up. The recommended concentration ranges from 1-100 g/m^3, depending on the intensity of the foam. The defoamer controls deaerating during the technological process of the ore beneficiation containing non-ferrous metals.

Advantage features

- Small volume effective volume
- Excellent ability to suppress foam;
- High deaerating properties;
- Works in a wide range of pH.

Typical physical and chemical characteristics

Description	Synfom Mk19
Appearance	clear viscous liquid
Density, kg/m^3	1020
pH 10% water solution, at 20 °C	6,9

Package

- Steel drum 200 kg
- IBC 1000 kg

Safety

Low hazardous for human, non-combustible.

Storage

Store in well-ventilated areas at temperature 10 to 40 °C. Expiration storage period 12 months from the date of manufacture.

Scale inhibitors

Syndis N10, N12

Series of scale inhibitors in evaporators

Description

Syndis N series are scale inhibitors developed by our company for the production of alumina. They are used at the evaporation stage, effectively eliminate scaling of hydroalumosilicates, hydrogarnets, carbonates inside the space of the evaporator plants. Based on a mixture of effective inhibitors of salt crystal build-up.

Application

Scale inhibitors **Syndis N** are dosed into the process medium before the evaporator plants directly into the flow. The consumption of inhibitors is 5-50 g/m^3 of flow.
The consumption is selected individually based on the dosage point and the degree of dilution.

Advantage features

- Increase interwash cycle;
- Significantly slow down the scaling on the process surfaces;
- Reduce wear of evaporative plants;
- Do not contain phosphorus or sulfur.

Typical physical and chemical characteristics

Description	Syndis N10	Syndis N12
Appearance	transparent light liquid	transparent light liquid
Density, kg/m^3	1310	1290
pH 10% water solution, at 20 °C	8,6	8,4

Package

- Steel drum 220 kg
- IBC 1200 kg

Safety

Low hazardous for human, non-combustible.

Storage

To store in a well-ventilated place at a temperature from 10 to 40 °C. The expiration date is 1 year from the date of production.

Corrosion inhibitors

Syncor IC, IC-SA

Corrosion inhibitors

Description

Syncor series corrosion inhibitors provide effective corrosion protection of metals in acid solution. **Syncor series** corrosion inhibitors are the mixture of multicyclic amids and functional additives.

Application

Syncor series inhibitors are used for protection of carbon and low-alloyed steel in etching in acid solution while removing scale from the metal surface that is formed during heat rolling, pressuring, heat treatment. Also, they are used to protect industrial equipment from acid corrosion.

Typical physical and chemical characteristics

Description	Syncor IC	Syncor IC-SA
Acid	hydrochloric, flourhydic	sulphuric
Appearance	liquid of yellow color	
Density at 20 °C, kg/m^3	1100	
Hydrogen ion index, pH	7,5	

Package

- Jerrican 20 kg
- Steel drum 200 kg
- IBC 1000 kg

Safety

The product is highly hazardous (hazard class 2 according to GOST State Standard 12.1.007-76). Has irritant effect on the skin and eye mucous. If stored and handled inappropriately, possesses hazard for the environment.

Storage

Store tightly closed in dry, well-ventilated areas at temperature 5 to 35 °C. Store away from the direct sunlight. Avoid freezing the product. Avoid storage of food and drinking water nearby. Expiration storage period – 6 months from the date of manufacture.

Dewatering aid

Syndis PG01

Dewatering agent for the product hydrate

Description

Syndis PG01 is a mixed reagent based on high-active surfactants that contain no hydrophobic substances of the polysiloxanes and mineral oils type. Designed to activate the capillary flow of liquid in the production hydrate in alumina production. Helps to remove bound moisture.

Application

The dewatering agent **Syndis PG01** can be dosed both into the pulp supply of the last stage hydrate washing and directly in the drum filters.
The consumption of the dewatering agent is 10 - 20 g/m^3 of the pulp supply.
The dosage is selected individually based on the dosing point and the degree of dilution.

Advantage features

- Reduces the moisture of the product aluminum hydroxide;
- Increases the output of calcination furnaces;
- Reduces specific fuel consumption during calcination;
- Reduces alkali content in production aluminum hydroxide;
- Stabilizes the work of residue product filters.

Typical physical and chemical characteristics

Description	Syndis PG01
Appearance	light yellow liquid
Density, kg/m^3	1060
pH 10% water solution, at 20 °C	6,2

Package

- Steel drum 200 kg
- IBC 1000 kg

Safety

The product is moderately hazardous for human, irritating to the skin and mucous membranes, combustible.

Storage

Store tightly closed in a dry, well-ventilated place at a temperature from 10 °C to 40 °C.
The warranty shelf life – 1 year from the date of production.

Flocculant

Synflok A29

Flocculant

Description

Synflok A29 is a high effective anion flocculant of high molecular weigh and high charge, has an appearance of water solution of polyacrylamide.

Application

Synflok A29 is applied to increase hydrophobic properties in the process of washing of hydro chemical pulp of red mud in alumina production and also to purify waste water in different industries. It is applied within concentration of 0,05% to 1,0%.

Advantage features

- Minimal dosage
- High selectivity
- Increase of flotation concentrate quality
- High speed of sedimentation
- Increase hydrophobic properties of minerals

Typical physical and chemical characteristics

Description	Synflok A29
Appearance	non-transparent liquid of white color
Density at 20 °C, kg/m^3	1050
Minimal time of dispersion, min	30
Charge index, %	75

Package

- Jerrycan 20 kg
- Steel drum 200 kg
- IBC, 1000 kg

Storage

Store in tightly closed original container in indoor storage depots or covered in open-air areas. Storage temperature 5 to 35 °C. Warranty storage period – 12 months.

Dedusting agent

Syndis DB01

Dedusting agent

Description

Syndis DB01 is a liquid damping agent for improving moistening features of water and forming of film on the ore surface. Is a anionic surfactant with functional additives.

Application

Syndis DB01 is applied to improve moistening features of water and to reduce dust formation in open-cast mines and in mining and transportation of ore. The agent is water-miscible. Stirring up with pump or special-purpose stirring equipment is required.

Dosage

Recommended dosage of **Syndis DB01** is 0,25 to 1 kg per 1 liter. The dosage may vary depending on the type of ore and the type of treated surface. The solution is applied to the treated surface by spraying.

Advantage features

- High efficiency;
- High moistening features;
- Good water solubility;
- Ecological safety.

Typical physical and chemical characteristics

Description	Syndis DB01
Appearance	transparent colorless liquid
Density at 20 °C, kg/m^3	1,1
pH 10%	6,5

Package

- IBC, 1000 kg

Safety

Syndis DB01 is medium-hazardous in case of skin, eye contact and if swallowed. Inhaling is unlikely. If ignition, intoxication with thermal decomposition products (carbon oxide) is possible. The product is flammable.

Storage

Recommended to store at temperature 0 to 30 °C in closed container away from high and low temperature. Warranty expiration storage period in original closed container – 12 months.

Syndis DB05

Dedusting agent

Description

Syndis DB05 is a liquid film-forming agent for dusting suppression and fixing the dust to a surface in breezy and dry lands. The product is a water dispersion of co-polymers of vinyl acetate and functional additives.

Application

Syndis DB05 is applied in order to form protective films on earthboard surface, to reinforce and preserve tailing dump, to prevent ore from loss because of weathering and to prevent the dust from transferring into the environment. The agent is water mixable by using the pump circulation or any other suitable device.

Dosage

Recommended dosage is 1-2 liters of emulsion with concentration of 1,5-4% per m2 of treatable surface. The dosage may vary depending on the ore type and the specifics of the treated surface.

Advantage features

- High efficiency;
- Weathering reduction
- Good surface adhesion
- Eco safety

Typical physical and chemical characteristics

Description	Syndis DB05
Appearance	viscous liquid of milky white color
Kinematic viscosity	4800
Minimum temperature of film-forming, °C	4
pH	6

Package

- IBC, 1000 kg

Safety

Low hazardous substance in terms of transferring in the organism, on the skin and in eyes. Affection by inhalation is unlikely. In case of ignition intoxication with thermal decomposition (carbon oxides) may occur. The product is a noncombustible water emulsion.

Storage

It is recommended to store at temperature of 5 to 30 °C in closed container away from high and low temperature.
Warranty storage period in original closed container – 6 months.

Aluminium production

Non-ferrous casting lubricants

Syntetic ML-A

Process lubricant

Description

Syntetic ML-A is a process lubricant for casting of aluminum based on a high-temperature polyolester and a set of functional additives.

Application

Syntetic ML-A is used for the mold lubrication during casting of aluminum ingots of various sizes in casting machines with lubrication devices, ensuring continuous / dosed supply.

Advantage features

- High resistance to oxidation;
- High flash point;
- Lower smoke generation;
- Good adhesion;
- Biodegradability.

Typical physical and chemical characteristics

Description	Syntetic ML-A
Appearance	transparent yellow liquid
Density at 20 °C, kg/m^3	915
Kinematic viscosity at 40 °C, mm^2/s	36
Kinematic viscosity at 100 °C, mm^2/s	7
Viscosity index	150
Flash point, open cup, °C	290
Pour point, °C	–15

Package

- Jerrican 19 kg
- Steel drum 185 kg
- IBC 900 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from –10 to 30 °C in a closed container in a dry and clean place away from flammable materials, heat sources, open flames and direct sunlight. Warranty period of storage in the closed original container — 12 months.

Syntetic ML-A 50

Process lubricant

Description

Syntetic ML-A 50 is a process lubricant for casting of aluminum based on mineral oils, fatty acids esters and a set of functional additives.

Application

Syntetic ML-A 50 is used for the mold lubrication during casting of aluminum ingots of various sizes in casting machines with lubrication devices, ensuring continuous / dosed supply.

Advantage features

- High resistance to oxidation;
- High flash point;
- Lower smoke generation;
- Good adhesion;
- Increase of quality of billets;
- Low consumption.

Typical physical and chemical characteristics

Description	Syntetic ML-A 50
Appearance	transparent yellow liquid
Density at 20 °C, kg/m^3	900
Kinematic viscosity at 40 °C, mm^2/s	50
Kinematic viscosity at 100 °C, mm^2/s	8,6
Viscosity index	120
Flash point, open cup, °C	250
Pour point, °C	–15

Package

- Jerrican 19 kg
- Steel drum 185 kg
- IBC 900 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from –10 to 30 °C in a closed container in a dry and clean place away from flammable materials, heat sources, open flames and direct sunlight. Warranty period of storage in the closed original container — 12 months.

Syntetic ML-A 550

Process lubricant

Description

Syntetic ML-A 550 is a process lubricant for casting of aluminum based on mineral oils and esters.

Application

Syntetic ML-A 550 is used for the mold lubrication during casting of aluminum ingots of various sizes in casting machines with manual or automatic application.

Advantage features

- High resistance to oxidation;
- Good adhesion;
- Improving the surface quality of billets and slabs;
- Low consumption;
- Very low smoke generation.

Typical physical and chemical characteristics

Description	Syntetic ML-A 550
Appearance	viscous liquid
Kinematic viscosity at 40 °C, mm^2/s	530
Viscosity index	160
Flash point, open cup, °C	295
Pour point, °C	–15

Package

- Jerrican 19 kg
- Steel drum 190 kg
- IBC 900 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from –10 to 30 °C in a closed container in a dry and clean place away from flammable materials, heat sources, open flames and direct sunlight. Warranty period of storag in the closed original container — 12 months.

Syntetic ML-A 1000

Process lubricant

Description

Syntetic ML-A 1000 is a process lubricant for casting of aluminum based on esters and a set of the functional additives.

Application

Syntetic ML-A 1000 is used for manual or automatic application at the mold lubrication during casting of aluminum ingots of various sizes.

Advantage features

- High resistance to oxidation;
- Good adhesion;
- Improving the surface quality of billets and slabs;
- Low consumption;
- Biodegradability;
- Very low smoke generation.

Typical physical and chemical characteristics

Description	Syntetic ML-A 1000
Appearance	clear yellow liquid
Kinematic viscosity at 40 °C, mm^2/s	1000
Viscosity index	190
Flash point, open cup, °C	300
Pour point, °C	–25

Package

- Jerrican 19 kg
- Steel drum 190 kg
- IBC 900 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from –20 to 40 °C in a closed container in a dry and clean place away from flammable materials, heat sources, open flames and direct sunlight. Warranty period of storage in the closed original container — 12 months.

Syntetic ML-A 1900

Process lubricant

Description

Syntetic ML-A 1900 is a process lubricant for casting of aluminum based on esters.

Application

Syntetic ML-A 1900 is used for manual or automatic application at the mold lubrication during casting of aluminum ingots of various sizes.

Advantage features

- High resistance to oxidation;
- Good adhesion;
- Improving the surface quality of billets and slabs;
- Low consumption;
- Biodegradability;
- Very low smoke generation.

Typical physical and chemical characteristics

Description	Syntetic ML-A 1900
Appearance	transparent yellow liquid
Kinematic viscosity at 40 °C, mm^2/s	1900
Viscosity index	250
Flash point, open cup, °C	300
Pour point, °C	–15

Package

- Jerrican 19 kg
- Steel drum 190 kg
- IBC 900 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from –10 to 30 °C in a closed container in a dry and clean place away from flammable materials, heat sources, open flames and direct sunlight. Warranty period of storage in the closed original container — 12 months.

Syntetic ML-S 220

Process lubricant

Description

Syntetic ML-S 220 is a process lubricant for casting of aluminum based on synthetic oil.

Application

Syntetic ML-S 220 is used for the mold lubrication during casting of aluminum ingots of various sizes in the casting machines with manual or automatic application.

Advantages

- High resistance to oxidation;
- Good adhesion;
- Improving the surface quality of billets and slabs;
- Low consumption;
- Very low smoke generation;
- Low freezing temperature.

Typical physical and chemical characteristics

Description	Syntetic ML-S 220
Appearance	light colorless liquid
Density at 20 °C, kg/m^3	930
Kinematic viscosity at 40 °C, mm^2/s	230
Flash point, open cup, °C	260
Pour point, °C	–45

Package

- Jerrican 19 kg
- Steel drum 190 kg
- IBC 900 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature not higher than 40 °C in a closed container in a dry and clean place away from flammable materials, heat sources, open flames and direct sunlight. Warranty period of storage in the closed original container — 12 months.

Syntetic N

Process lubricant

Description

Syntetic N is a process lubricant for casting of aluminum based on vegetable oil and synthetic polyolester.

Application

Syntetic N is used for the mold lubrication during casting of aluminum ingots of various sizes in the casting machines with manual or automatic application.

Advantage features

- High resistance to oxidation;
- Good adhesion;
- Improving the surface quality of billets and slabs;
- Low consumption;
- Biodegradability;
- Very low smoke generation.

Typical physical and chemical characteristics

Description	Syntetic N
Appearance	clear yellow liquid
Kinematic viscosity at 40 °C, mm^2/s	38
Viscosity index	120
Flash point, open cup, °C	300
Pour point, °C	–15

Package

- Jerrican 19 kg
- Steel drum 190 kg
- IBC 900 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12/1/007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from –10 to 30 °C in a closed container in a dry and clean place away from flammable materials, heat sources, open flames and direct sunlight. Warranty period of storage in the closed original container — 12 months.

Cutting liquids

Syntetic AL 21

Metal work lubricant

Description

Syntetic AL 21 is a non water-miscible cooling lubricant on a unique high-effective synthetic base for metal working for MQL systems.

Application

Syntetic AL 21 is used for all kinds of metal working operations of aluminum and aluminum alloys: sawing (with ribbons and circles), milling, drilling and threading, as well as for stamping, bending, cutting, etc.
Syntetic AL 21 is applied for MQL systems. Can be also sprayed on the treated parts undiluted, applied with a brush or drip lubrication.

Advantage features

- Minimal consumption;
- No lubrication waste;
- No stains on the treated material;
- Does not cause irritation, does not contain biocides, nitrites and chlorine.
- Excellent lubricating properties;
- Increased tool life;

Typical physical and chemical characteristics

Description	Syntetic AL 21
Appearance	light colourless liquid
Density at 20 °C, kg/m^3	850
Kinematic viscosity at 40 °C, mm^2/s	19
Flash point, open cup, °C	180
Pour point, °C	–28

Package

- Jerrican 17 kg
- Steel drum 175 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from –20 to 30 °C in a closed container in a dry and clean place away from flammable materials, heat sources, open flames and direct sunlight. Warranty period of storage in the closed original container — 12 months.

Syntetic MS-20

Metal work lubricant

Description

Syntetic MS-20 is a non water-miscible ccooling lubricant on a unique high-effective synthetic base for metal working for MQL systems.

Application

Syntetic MS-20 is used in oil-air supply systems and drip MQL systems for metal working operations: sawing (with ribbons and circles), milling, drilling and threading, etc.
Besides, it is used in stamping, bending and cutting.

Advantage features

- Minimal consumption;
- No lubrication waste;
- No stains on the treated material;
- Excellent lubricating properties;
- Good anticorrosion characteristics.

Typical physical and chemical characteristics

Description	Syntetic MS-20
Appearance	clear yellow liquid
Density at 20 °C, kg/m^3	890
Kinematic viscosity at 40 °C, mm^2/s	20
Flash point, open cup, °C	177
Pour point, °C	–24

Package

- Jerrican 17 kg
- Steel drum 185 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from –15 to 30 °C in a closed container in a dry and clean place away from flammable materials, heat sources, open flames and direct sunlight. Warranty period of storage in the closed original container — 12 months.

Syntetic MS-40

Metal work lubricant

Description

Syntetic MS-40 is a non water-miscible cooling lubricant on a unique high-effective synthetic base for metal working specially designed for MQL systems.

Application

Syntetic MS-40 is used for all kinds of metal work operations of aluminum and aluminum alloys: sawing (with ribbons and circles), milling, drilling and threading, as well as for stamping, bending, cutting, etc. Sprayed on the treated parts undiluted, applied with a brush or drip lubrication.
Can be used for MQL systems.

Advantage features

- No waste disposal required;
- Increases tool life;
- No stains on the treated material;
- Excellent lubricating properties;
- Good anticorrosion characteristics.

Typical physical and chemical characteristics

Description	Syntetic MS-40
Appearance	clear yellow liquid
Density at 20 °C, kg/m^3	890
Kinematic viscosity at 40 °C, mm^2/s	20
Flash point, open cup, °C	250
Pour point, °C	–24

Package

- Jerrican 17 kg
- Steel drum 185 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms off acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Dangerous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from –20 to 30 °C in a closed container in a dry and clean place away from flammable materials, heat sources, open flames and direct sunlight. Warranty period of storage in the closed original container — 12 months.

Fire resistant hydraulic liquids

Synlube DU46, DU68

Fire resistant hydraulic liquids

Description

Synlube DU is a **HFDU** type fire resistant hydraulic liquid based on synthetic esters with a range of highly effective additives.

Application

It is used in oil hydraulic systems in which the working liquid can be heated above 70 °C and oil ignition in an emergency is possible.

Advantage features

- Good fire resistance;
- High lubricating and antioxidant properties;
- Completely biodegradable;
- Compatible with major sealing materials.

Typical physical and chemical characteristics

Description	Synlube DU 46	Synlube DU 68
Appearance	light transparent liquid	
Density at 20 °C, kg/m^3	915	915
Kinematic viscosity at 40 °C, mm^2/s	46	68
Kinematic viscosity at 100 °C, mm^2/s	9,5	12,5
Viscosity index	183	183
Flash point, open cup, °C	300	300
Self-ignition point, °C	400	400
Pour point, °C	–45	–30

Package

- Steel drum 190 kg
- IBC 900 кг

Compatibility

Synlube DU is compatible and miscible with almost all hydraulic liquids based on mineral oils and polyolesters. Not miscible and incompatible with liquids containing water. If switching to **Synlube DU**, please, contact "SM-Service", Ltd. specialists.

Storage

Store in the manufacturer's hermetically sealed container in closed storage depots or in covered in open-air areas. Storage temperature from –20 to 40 °C.
Warranty period of storage — 2 years from the date of production.

Synclean HFDU

System cleaner for hydraulic equipment

Description

Synclean HFDU is an effective cleaner based on composite esters and functional additives. Applied for hydraulic systems running on **HFDU** type liquids.

Application

It is used for periodic cleaning of hydraulic systems (pipelines, working tanks, hydraulic accumulator, etc.) running on **HFDU** type hydraulic liquids.
It effectively removes organic and mechanical dirt from the working system.

Advantage features

- High flash point;
- Does not cause metal corrosion;
- Faint odor;
- Aromatic hydro carbons free.

Typical physical and chemical characteristics

Description	Synclean HFDU
Appearance	transparent light yellow liquid
Density at 20°C, kg/m^3	910
Kinematic viscosity at 40 °C, mm^2/s	34
Flash point, open cup, °C	300
Pour point, °C	–18

Package

- Steel drum 190 kg
- IBC 900 кг

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies.

Storage

Store in the manufacturer's container in closed storage depots or covered in open-air areas. The container must be tightly closed. Storage temperature is from –10 to 30 °C.
Warranty period of storage — 9 months from the date of production

Aluminum processing

Rolling oils

Synterol A, C, M, M20

Series of rolling oils

Description

Series of **Synterol** rolling oils are various combinations of low viscosity deep refined oil fraction and aromatic hydrocarbons.

Application

Used on cold rolling mills as a base oil for aluminum foil and strip rolling. As a rule, they are used in mixtures with appropriate additives, for example, with range of **Synterol** series additives that allow to select the optimal composition of the rolling oil to achieve the required operational properties and quality of rolled surface.

Typical physical and chemical characteristics

Description	Synterol A	Synterol C	Synterol M	Synterol M20
Appearance	colorless transparent liquid			
Density at 20 °C, kg/m^3	808	810	820	790
Kinematic viscosity at 40 °C, mm^2/s	1,7	1,6	1,9	2,1
Flash point in a closed cup, °C	74	82	80	95
Pour point °C	-30	-30	-20	-20
Initial boiling point, °C	197	206	200	225
Final boiling point, °C	268	243	270	270
Mass fraction of aromatic hydrocarbons, %	10	0,001	10	0,03
Corrosive effect on metal	conforms	conforms	conforms	conforms

Synterol A, C, M, M20

Series of rolling oils

Advantage features

	Synterol A	Synterol C	Synterol M	Synterol M20
Long-life performance	●	●	●	●
Narrow boiling range	●	●	●	●
Excellent detergent property	●		●	
High load capacity		●		●
Low consumption	●	●	●	●

Package

- IBC, 750 kg
- In bulk

Safety

The products are low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Dangerous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature not lower -20 °C, away from heat sources, open flames and direct sunlight.
Warranty period of storage 12 months.

Lubricating additives for rolling oils

Synterol 1, 2, 6, 7, 8, 9, 11

Series of additives

Description

Series of **Synterol** lubricating additives are developed to improve the lubricating properties of cold rolling oils such as Synterol, Somentor, Lubrilam.

Application

Additives are designed to optimize the operation of aluminum rolling mills and achieve the required quality and clean surface finish. They allow to select the optimal composition of the rolling oil to achieve the required performance properties.

Advantage features

- Extending the life of the rolling oil;
- Improving the quality of rolling mill products;
- Reduction of defectives;
- Reduction of tool wearing.

Typical physical and chemical characteristics

Description	Synterol-1	Synterol-2	Synterol-6	Synterol-7	Synterol-8	Synterol-9	Synterol-11
Density at 20 °C, kg/m^3	810 (at 23°C)	850	810 (at 23°C)	810	830	820	840
Kinematic viscosity at 40 °C, mm^2/s	2,4	2,3	12	4,5	8,5	10	9,2
Flash point in a closed cup, °C	90	110	130	104	115	110	140
Pour point, °C	+18	0	+18	+10	+18	+18	+14
Acid value, mg KOH/g	65	0,03	0,02	0,02	0,3	0,02	0,08

Synterol 1, 2, 6, 7, 8, 9, 11

Series of additives

Composition

Composition / Additives	Synterol-1	Synterol-2	Synterol-6	Synterol-7	Synterol-8	Synterol-9	Synterol-11
Hydrocarbons	●			●	●	●	
Synthetic esters	●	●			●		●
Fatty alcohols			●	●	●	●	●
Functional additives	●	●	●	●	●	●	●

Package

Package/ Additives	Synterol-1	Synterol-2	Synterol-6	Synterol-7	Synterol-8	Synterol-9	Synterol-11
Steel drum, kg	165	175	175	175	170	170	175 кг
IBC, kg	750	800	800	800	780	780	800
Bulk	●	●	●	●	●	●	●

Safety

The products are low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity.) Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store away from heat sources, open flames and direct sunlight.
Warranty period of storage 12 months.

	Synterol-1	Synterol-2	Synterol-6	Synterol-7	Synterol-8	Synterol-9	Synterol-11
Storage temperature, °C	From +20 to +40	From +10 to +40	From +20 to +40	From +20 to +40	From +20 to +40	From +20 to +40	From +10 to +40

Antistatic additive for rolling oils

Synterol ASP

Additive

Description

Synterol ASP is an antistatic additive for lubricants for cold rolling of aluminum foil and strip. It is a mixture of functional copolymers in a hydrocarbon solvent.

Application

Synterol ASP increases the conductivity of rolling lubricants based on paraffin hydrocarbons. It is necessary to ensure intensive mixing of the rolling lubricant when adding the additive for more efficient use.

Dosage

The recommended concentration is 0,0001-0,0005 % (in some cases may be increased up to 0.001%). The recommendations are basic, the best optimal dosage is to be chosen in the laboratory individually.

Advantage features

- Chlorine and heavy metals free;
- High efficiency with low consumption.

Typical physical and chemical characteristics

Description	Synterol ASP
Appearance	dark brown liquid
Density at 20 °C, kg/m^3	925
Kinematic viscosity at 40 °C, mm^2/s	14
Flash point in a closed cup, °C	74
Chilling point °C	- 35

Package

- Steel drum, 160 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76). Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from -15 to +40 °C, away from heat sources, open flames and direct sunlight. Warranty period of storage 12 months.

Antioxidant additive for rolling oils

Synterol AO

Additive

Description

Synterol AO Synterol AO is an antioxidant additive for lubricants for cold rolling of aluminum foil and strip. It is a liquid high molecular phenolic antioxidant.

Application

Synterol AO Synterol AO is used to extend the life of the rolling oil based on paraffin hydrocarbons. For more effective use it is necessary to ensure intensive mixing of the rolling lubricant when dosing the additive.

Dosage

The recommended concentration is 0,1-0,4 % (in some cases may be increased up to 0,8%).
The recommendations are basic, the best optimal dosage is to be chosen in the laboratory individually.

Advantage feature

- High solubility in oils;
- Provides excellent protection against oxidation and scale formation;
- Solvent free;
- High efficiency with low consumption.

Typical physical and chemical characteristics

Description	Synterol AO
Appearance	yellow liquid
Density at 20 °C, kg/m^3	985
Kinematic viscosity at 40 °C, mm^2/s	128
Flash point in a closed cup, °C	< 150

Package

- Jerrycan 19 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity). Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature from 0 to +40 °C, away from heat sources, open flames and direct sunlight.
Warranty period of storage 12 months.

Stamping lubricants

Syndraw 1P, 3, 4A, 4B, 6

Series of evaporating lubricants

Description

Evaporating lubricants of **Syndraw** series are low-viscosity, quick-evaporating lubricants based on synthetic hydrocarbons. They contain additives that improve lubricating properties and provide protection against wear.

Application

Range of **Syndraw** evaporating lubricants are used for stamping, forming, pressing, drawing of most of metals (steel, aluminum, aluminum alloys and other non-ferrous metals). Additional degreasing / washing of the metal surface after the metalworking process and evaporation is not required due to a small amount of lubricant residue.

Advantage features

- Easy application and uniformity of surface coating of processed products;
- Chlorine, aromatic hydrocarbons and heavy materials free
- No aggressive effects on rubber products;
- Faint odor;
- Excellent lubricating properties;
- Minimum tool wear;
- Low consumption;
- Corrosion protection;
- No traces after evaporation.

Typical physical and chemical characteristics

Description	Syndraw 1 grade P	Syndraw 3	Syndraw 4 grade A	Syndraw 4 grade B	Syndraw 6
Appearance	colorless to light yellow liquid				
Density at 20 °C, kg/m^3	747	826	764	760	800
Kinematic viscosity at 40 °C, mm^2/s	0,79	2,61	1,22	1,24	1,9
Flash point in a closed cup, °C	93	81	89	94	88

Package

- Jerrycan 16 kg
- Steel drum, 165 kg
- IBC 760 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity). Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store at temperature not lower -10 °C, away from heat sources, open flames and direct sunlight. Warranty period of storage 12 months.

Stamping oil

Syndraw 15

A process lubricant

Description

Syndraw 15 is lubricant for various processes of stamping of non-ferrous metals and aluminum alloys. The lubricant contains special additives in its composition that improve lubricating properties and provide protection against wearing.

Application

Syndraw 15 is used for stamping and drawing of non-ferrous metals and aluminum alloys, can also be used for edge cutting machining. The lubricant is applied with a roller, brush or spray nozzles.

Advantage features

- Excellent lubricating properties;
- Corrosion protection;
- Chlorine, phosphorus, sulfur and heavy metals free
- Faint odor;
- Extend the life of a pressing tool;
- High surface quality.

Typical physical and chemical characteristics

Description	Syndraw 15
Appearance	transparent light-yellow liquid
Density at 20 °C, kg/m^3	890
Kinematic viscosity at 40 °C, mm^2/s	17
Flash point in an open cup, °C	205

Package

- Steel drum 180 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity). Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store in closed depots or covered in open-air areas away from flammable materials, heat sources, open flame. Recommended storage temperature from -20 to +40 °C.
Warranty period of storage 12 months.

Drawing lubricants

Syndraw 40, 150, 300S, 500

Series of process lubricants

Description

Syndraw series lubricants are non-water-miscible lubricants for wet drawing of wires and pipes made of aluminum and its alloys. Lubricants contain special additives that improve lubricating properties and provide protection against wear, oxidation and corrosion.

Application

Drawing lubricants **Syndraw** are used undiluted for wet drawing of wire and pipes from aluminum and its alloys.

Advantage features

- Excellent lubricating properties;
- No chlorine in the composition;
- High surface quality of proceeded parts;
- High tool life;
- Steady drawing at high speeds;
- Corrosion protection.

Typical physical and chemical characteristics

Показатели	Syndraw 40	Syndraw 150	Syndraw 300S	Syndraw 500
Appearance	brown clear liquid			
Density at 20 °C, kg/m^3	880	892	897	895
Kinematic viscosity at 40 °C, mm^2/s	43	152	400	617
Flash point in an open cup, °C	210	244	234	232

Package

- **Syndraw 40**: steel drum 180 kg
- **Syndraw 150**: steel drum 185 kg
- **Syndraw 300S**: steel drum 185 kg
- **Syndraw 500**: steel drum 185 kg

Safety

The products are low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity). Has an irritating effect on the skin and mucous membranes.Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store in a closed container in dry and clean premises, keep away from flammable materials, heat sources,open flames and direct sunlight.
Recommended storage temperature from -10 to +30 °C.
Warranty period of storage 2 years.

Finish cutting of aluminum profiles

Syntetic AL 10E, 19

Series of liquids for lubricating and cooling

Description

Syntetic AL 10E, AL 19 are synthetic non-water-miscible lubricating coolants for metalworking using MQL systems.

Application

Used for any operations of metal cutting and all other kinds of aluminum alloys metalworking. General machining: sawing (ribbons and circles), milling, drilling and threading, etc. In addition, it is used for stamping, bending, blanking, etc.
Is applied by brushing, spraying, or dropping. Can be used for MQL systems.

Advantage features

- Minimal consumption;
- No lubrication wastes;
- Do not leave stains on metal surface;
- Do not require coolant waste utilization;
- Do not cause irritation (no biocides, sulfur, nitrites and chlorine in the composition);
- Extend tool life.

Typical physical and chemical characteristics

Description	Syntetic AL 10E	Syntetic AL 19
Appearance	colorless clear liquid	clear light-yellow liquid
Density at 20 °C, kg/m^3	810	836
Kinematic viscosity at 40 °C, mm^2/s	10	19
Flash point in an open cup, °C	105	160

Package

- Jerrycan 16 kg
- Steel drum 160 kg

Safety

The products are low-toxic (hazard class 4 according to GOST State Standard 12.1.007076 in terms of acute oral toxicity). Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Recommended storage temperature from -10 to +30 °C, away from heat sources, open flames and direct sunlight. Warranty period of storage 12 months.

Release agent for tube extrusion

Synpress GL

Release agent for tube extrusion

Description

Synpress GL is a release agent for aluminum tube extrusion. Demonstrates good adhesion athigh temperatures and, due to graphite in its composition, forms a film on the metal surface with excellent release and lubricating properties. The agent's film provides a good metal flow during deformation at high temperature.

Application

Synpress GL is used for various types of hot-forming method (extrusion, stamping, etc.). It is applied manually or using special equipment, depending on the requirements of the technology. Supplied ready to use.

Advantage features

- Excellent lubricating properties;
- Extends life of molds and stamping dies;
- Compatible with non-ferrous metals;
- Works at extremely high temperatures.

Typical physical and chemical characteristics

Description	Synpress GL
Appearance	viscous black liquid with a specific odor
Density of a base oil at 20 °C, kg/m^3	890
Kinematic viscosity of a base oil at 40 °C, mm^2/s	98
Flash point in an open cup, base oil °C	250
Dry solids weight content, %	30

Package

- Bucket 10 kg
- Plastic drum 55 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity). Has an irritating effect on the skin and mucous membranes. Dangerous for the environment, especially for water bodies. Hazardous.

Storage

Store in a closed container in a dry and clean place away from highly flammable materials, heat sources, open flames and direct sunlight.
Recommended storage temperature from +5 to +35 °C. Avoid freezing the product.
Warranty period of storage 12 months.

Lubricants for pressing of aluminum tubes and aerosol cans

Syndraw T, TS

Lubricants

Description

Syndraw T is a lubricating paste based on metal salts of fatty acids.
Syndraw TS is a powder based on a mixture of metal salts of fatty acids. Lubricants contain additives that improve lubricating properties and provide protection against wear and corrosion.

Application

Syndraw T is used for cold extrusion of aluminum tubes and aerosol cans as the main lubricating component.
Syndraw TS – for the cold extrusion of aluminum aerosol cans and aluminum tubes as the main lubricating component, as well as an additive that improves the lubricating properties of **Syndraw T** and minimizes tool wear.

Advantage features

- Low consumption;
- Easy application and surface coating uniformity of slugs;
- Corrosion protection;
- Excellent lubricating properties and minimal tool wearing;
- No chlorine, aromatic hydrocarbons and heavy metals.

Typical physical and chemical characteristics

Показатели	Syndraw T	Syndraw TS
Appearance	paste from white to light yellow color	white powder
Dry solids weight content, % not less	80	–
pH	8	–
Mass fraction of the main component, % not less	–	95
Melting point, °C	–	180

Package

- **Syndraw T**: bucket 12 kg
- **Syndraw TS**: bucket 5 kg

Storage

Recommended storage temperature from -10 to +30 °C. Store away from direct sunlight, flames and heat sources. Warranty period of storage 12 months.

Production of aluminum cans

Syndraw ALC

Process liquid

Description

Syndraw ALC is a process lubricant for drawing and stamping cups of aluminum cans. The lubricant contains special additives that improve lubricating properties and provide protection against wear.

Application

A process liquid **Syndraw ALC** is used for blanking, stamping and forming cups of aluminum cans. Is applied by roller coating, brushing or spraying.

Advantage features

- Excellent lubricating properties;
- High surface quality of treated parts;
- Corrosion protection;
- Extends mold life.

Typical physical and chemical characteristics

Description	Syndraw ALC
Appearance	clear yellow liquid
Density at 20 °C, kg/m^3	875
Kinematic viscosity at 40 °C, mm^2/s	17
Flash point in open cup, °C	165

Package

- Steel drum 180 kg
- IBC 850 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity). Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store in a closed container in a dry and clean place away away from highly flammable materials, heat sources, open flames and direct sunlight.
Recommended storage temperature from -10 to 40 °C.
Warranty period of storage 6 months.

Synpress T

Cooling lubricant

Description

Synpress T is a fully synthetic, biostable, transparent cooling lubricant for metalwork of steel, cast iron and aluminum alloys, as well as for hydraulic testing of pipes.

Application

It is used for metalwork operations of steel, cast iron, aluminum alloys, such as cutting, grinding, milling. Also used in hydraulic presses for hydraulic pipe testing.

Dosage of the cooling lubricant:

Steel grinding – 2-3%;
Steel / cast iron cutting – 3-5%;
Steel / cast iron heavy processing operations – 4,5-10%.
Aluminum pressure treatment – 3-6%;
Hydraulic testing of pipes – 3-5%;

Advantage features

- High anticorrosion properties;
- Low foaming;
- Good lubricating properties;
- High biostability.

Typical physical and chemical characteristics

Description	Synpress T
Appearance	transparent yellow liquid
Density at 20 °C, kg/m^3	1060
Kinematic viscosity at 40 °C, mm^2/s	3,6
pH of 3% solution	9,5

Package

- Steel drum 180 kg
- IBC 850 kg

Safety

The product is low-toxic (hazard class 4 according to GOST State Standard 12.1.007-76 in terms of acute oral toxicity). Has an irritating effect on the skin and mucous membranes. Hazardous for the environment, especially for water bodies. Combustible.

Storage

Store in a closed container in dry and clean premises, keep away from highly flammable materials, heat sources, open flames and direct sunlight. Recommended storage temperature from +5 to 40 °C.
Warranty period of storage 12 months.

Quenchant

Synquench 100

Quenchant

Description

Synquench 100 is a non-flammable polymer quenching liquid with a reverse solubility. It is an water solution of a liquid organic polymer and anti-corrosion additives, diluted to a working concentration.

Application

Used for heat treatment of both ferrous and non-ferrous metals. In heat treatment of ferrous metals Synquench 100 can be successfully used for induction and flame hardening of various details, providing uniform hardening, eliminating the high residual stress that is typical of quenching in water and preventing the formation of soft spots and instability of mechanical properties.

Advantage features

- Does not pollute the environment;
- Excludes smoke and oil deposits formation
- Excellent anti-corrosion properties;
- Minimum carry-over from the metal surface;
- Water soluble, mixed easily with water;
- Minimum residual deformation of metal;
- Optimal cooling mode can be set up for a particular material or element by regualating of concentration, temperature and stirring up;
- Does not require frequent monitoring and replacements due to wear and oxidation.

Typical physical and chemical characteristics

Description	Synquench 100
Appearance	light transparent liquid
Density at 20 °C, kg/m^3	1090
Refraction index at 20 °C	1,4
pH of 10% aqueous solution	10,5
Specific heat, kJ / kg · K	2,94

Package

- Jerrycan 20 kg
- Steel drum 200 kg
- IBC, 1000 kg

Storage

Store in a closed container in a dry and clean place away away from highly flammable materials, heat sources, open flames and direct sunlight.
Recommended storage temperature from 0 to +30 °C.
Warranty period of storage 6 months.

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