50X1-HUM

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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C-O-N-F-I-D-E-N-T-I-A-L

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COUNTRY USSR

SUBJECT **Detailed Specifications of Soviet Crude Oils and Petroleum Products**

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Tujmaza Crude Oil
Krasnodarskaja Crude Oil
Tatarskaja Crude Oil
Mukhanovskaja Crude Oil, devonian and coaly
Sokolovogorskaja Crude Oil
Aviation Gasolines
Motor Gasolines
Aviation Turbine Fuel, T-1 and TC-1
Burning Kerosene
Gas Oil, 43/47, 48/52 and 53/57
Fuel Oil, F-12, 12 and 30
Coal Tar Benzol
Aviation Oil, MC-20 and MK-22
Spindle Oil "2"
Turbine Oil

[Document is unclassified]

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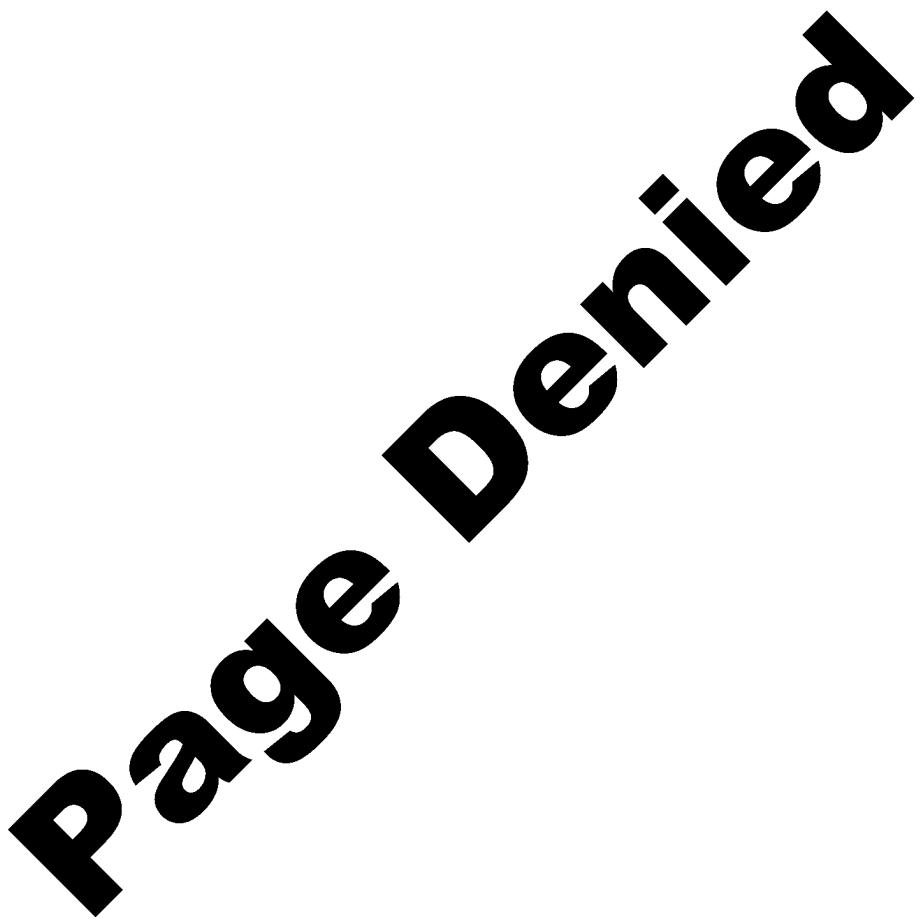

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V/O SOJUZNEFTEEXPORT

V/O "Sojuznefteexport" is the sole trade organization in the USSR for the sale of crude oil and petroleum products of high quality and wide assortment.

V/O "Sojuznefteexport" also supplies vessels with bunkers fuel oil and marine diesel oil at the ports of Batumi, Odessa, Tuapse, Novorossiisk, Leningrad, Murmansk, Archangel and Zhdanov.

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The Soviet Union possesses vast natural resources of various kinds of mineral fuels and is a great oil-producing State.

The discovery of a great number of oil-bearing fields along the Volga, the Urals and in other regions of the country has considerably changed the geographical distribution of the oil resources and has also paved the way for the foundation of new large oil centres in the Tatar, Bashkir and Kuibyshev regions, and each of them taken separately produces more oil than the world-known Baku region. Control Figures for the Economic Development of the USSR for 1959-1965 provide for the further increase of crude oil output and volume of refining operations which will sharply raise the exporting capacity of the Soviet Union.

TUJMAZA CRUDE OIL

One of the largest oil fields in the Volga-Ural oil-bearing region - Tujmaza - is situated in the West of the Bashkir Autonomous Soviet Socialist Republic. Processing of Tujmaza crude oil yields a wide assortment of light and dark products and lubricating oils.

The quality of the Tujmaza crude oil is of the following characteristics:

Specific gravity at 20°C, max.	0,858
Sulphur content, %, max.	1,5
Carbon content, %, max.	4,5
Paraffin content, % max.	5,5
Engler viscosity at 50°C, max.	1,4
Content of water and sediments, %, max.	0,5-1
Distillation:	
distilled up to 200°C, % min	23
distilled up to 300°C, % min	40
distilled up to 350°C, % min	50

KRASNODARSKAJA CRUDE OIL

Krasnodarskja crude oil is characterized by a low sulphur and salt content and yields after refining such products as high-quality gasolines, burning kerosene and high-grade gas fuel.

The quality of the Krasnodarskaja crude oil is of the following characteristics:

Specific gravity at 20°C, max.	0,899
Sulphur content, %, max.	0,5
Carbon content, %, max.	4,0
Paraffin content, %, max.	2,5
Engler viscosity at 50°C, max.	1,6
Content of water and sediments, %, max.	2,0
Distillation:	
distilled up to 200°C, %, min.	15
distilled up to 300°C, %, min.	35
distilled up to 350°C, %, min.	40

TATARSKAJA CRUDE OIL

Exploration resulted in discovery in the Tatar Autonomous Soviet Socialist Republic of the most important oil fields which have considerably increased the proved commercial oil reserves in the USSR.

The modern methods of refinery make it possible to product high-quality petroleum goods.

The quality of the Tatarskaja crude oil is of the following characteristics:

Specific gravity at 20°C, max.	0,870
Sulphur content, %, max.	1,75
Carbon content, %, max.	6,0
Paraffin content, %, max.	5,5
Engler viscosity at 50°C, max.	1,5
Content of water and sediments, %, max.	2,0

SOKOLOVO-GORSKAJA CRUDE OIL

Sokolovogorskaja crude oil by its qualities rates among the best oils produced in the Volga-Ural oil-bearing region.

It is known for its low sulphur and gum content a large amount of light fractions and lubricating oils.

The quality of the Sokolovogorskaja crude oil is of the following characteristics:

Specific gravity at 20°C, max.	0,840
Sulphur content, %, max.	0,55
Carbon content, %, max.	2,3
Paraffin content, %, max.	5,5
Engler viscosity at 50°C, max.	1,3
Content of water and sediments, %, max.	2
Distillation:	
distilled up to 200°C, %, min.	30
distilled up to 300°C, %, min.	48
distilled up to 350°C, %, min.	59

AVIATION GASOLINES

Aviation gasolines, manufactured by Soviet refineries are widely used in modern aircraft engines. They possess high anti-knock properties and easily evaporate, which guarantees easy starting and normal work of the engine under operating conditions.

The aviation gasolines are of the following characteristics:

Characteristics	Aviation gasoline grades	
	B 100/130	B 95/130
Octane number by motor method, min...	98,6	95
Rich mixture performance number, min...	130	130
Distillation:		
Initial boiling point, °C, not below	40	40
10% distilled, at °C, not above	75	82
50% distilled, at °C, not above	105	105
90% distilled, at °C, not above	145	145
97,5% distilled, at °C, not above	180	180

Fractional distillation:

distilled up to 200°C, %, min.	24
distilled up to 300°C, %, min.	40
distilled up to 350°C, %, min.	50

MUKHANOVSKAJA CRUDE OIL

The intensive geological researches of the last years in the Kuibyshev region have resulted in the discovery of a number of large oil fields among which the Mukhanov field is most promising.

The Mukhanovskaja devonian and coal-bearing oils are characterised by the light fraction composition and by a relatively low sulphur content.

When refined, it yields gas oil with high diesel index, industrial oils and other petroleum products of high quality.

The quality of the Mukhanovskaja crude oil is of the following characteristics:

	Mukhanovskaja devonian oil	Mukhanovskaja coaly oil
Specific gravity at 20°C, max.	0,845	0,855
Sulphur content, %, max.	0,9	1,3
Carbon content, %, max.	2,7	3,4
Paraffin content, %, max.	6	7
Engler viscosity at 50°C, max.	1,4	1,4
Content of water and sediments, %, max.	1,0	2,0
Distillation:		
distilled up to 200°C, %, min.	26	27
distilled up to 300°C, %, min.	46	42
distilled up to 350°C, %, min.	56	52

Characteristics	Aviation gasoline grades B 100/130	B 95/130
Vapour pressure, mm Hg, not more	240-360	220-260
Sulphur content, %, max.	0,05	0,05
Existent gum, mg/100 ml gasoline, max.	2	2
Net Calorific Value kcal/kg, min.	10300	10300

MOTOR GASOLINES

Wide assortment of motor gasolines, manufactured by our oil refineries for carburetter motor car and motor-cycle engines provides for normal stable work of these engines all the year round and under different operating conditions.

The motor gasolines possess excellent anti-knock qualities and stability and may be used for modern motor cars operating with high compression ratios as well as for other carburetter engines.

The motor gasolines are of the following characteristics:

MOTOR GASOLINES

Characteristics	Motor Gasoline Grades						
	74	83	87	90	93	95	98
Density at 20°C, max.	0,740	750	0,745	0,745	0,745	0,735	0,735
Octane number by motor method, min.	74	78	83	84	85	86	90
Octane number by research method, min.	-	83	87	99	93	95	98
Distillation:							
10% distilled at °C, not above	70	75	75	75	70	70	70
50 % distilled, at °C, not above	105	120	120	120	120	110	110
90 % distilled, at °C, not above	165	180	180	180	180	160	160
end point, °C, max.	180	205	205	205	195	180	180
Vapour pressure, mm Hg max.	500	500	500	500	500	450	450
Induction period, min. min.	800	500	500	500	500	500	500
The content of tetraethyl lead, ml/kg gasoline max.	none	0,6	0,7	0,73	0,73	0,73	0,75
Sulphur content, %, max.	0,10	0,10	0,10	0,10	0,10	0,05	0,05
Existent gum, mg/100 ml gasoline, max.	2	2	2	2	2	2	2

AVIATION TURBINE FUEL T-1, TC-1

Marks T-1 and TC-1 manufactured by means of straight run distillation of crude oils are characterized by light fractional composition, stability and successfully used by world known Soviet jet engines of various designs.

The jet fuel T-1 and TC-1 are of the following characteristics:

Characteristics	Jet propulsion fuel grades T-1	TC-1
Density at 20°C, ...	0,800-0,850	0,775
Distillation:		
Initial boiling point, °C, not above.	150	150
10 % distilled, °C, not above	175	165
50 % distilled, °C, not above	225	195
90 % distilled, °C, not above	270	230
98 % distilled, °C, not above	280	250
Kinematic viscosity, c.s.		
At 20°C, min.	1,5	1,25
At 0°C, max.	4	2,5
At minus 40°C, max.	16	8,0
At minus 50°C, max.	25	-
Flash point (closed cup) °C, not below	38	28
Commencement of crystallization, °C, not above	-60	-60
Content of aromatic hydrocarbons, %, max.	25	22
Net calorific value kcal/kg, min. ..	10250	10250
Total sulphur content,	0,1	0,25

BURNING KEROSENE

Burning kerosene manufactured from sweet special crude oils is characterized by good photometric properties, light fraction composition and may be successfully used for lighting and household.

The burning kerosene is of the following characteristics:

Specific gravity at 15°C, max.	0,815
Flash point, °C, not below	40
Cloud point, °C, not above	-15
Sulphur content, %, max.	0,05
Length of sootless flame, mm, min.	22
Colour by Stammer, mark, max.	2,2
Fractional composition:	
distilled up to 200°C, %, min.	25
end point, °C, not above	280

GAS OIL

Gas Oil manufactured in the Soviet Union is of a high quality and guarantees efficient and continuous operation of transport and stationary machines under different climatic conditions. It is successfully applied in high-speed forced diesels with a large number of revolutions, securing stable work of the fuel equipment.

The gas oil is of the following characteristics:

	Gas oil grades		
Characteristics	43/47	48/52	53/57
Density at 20°C, max.	0,865	0,865	0,845
Diesel index, min.	43	48	53
Engler viscosity at 20°C	1,2-1,5	1,2-1,7	1,2-1,5
Sulphur content, %, max.	0,2	0,2	0,2-1,0
Distillation:			
50 % distilled, °C, not above ..	290	290	290
90 % distilled, °C, not above ..	350	350	340
Pour point, °C, not above	-20	-15	-10
Flash point by Pensky-Martens, °C, not below	65	60	65
Colour in marks NPA, not darker	3	3	2

FUEL OILS

Fuel oils manufactured by our oil refineries are intended to meet requirements of various consumers including plants, water and railway transport, electric stations, glass industry and other enterprises.

Depending on the character of the technological processes, climate zone and the condition of the fuel equipment different kinds of fuel oils are used. They differ from each other in viscosity, pour point temperature, sulphur content and other qualitative indexes.

Fuel oils are of the following characteristics:

Characteristics	Fuel oil grades F-12	12	30
Density at 20°C, max.	0,950	0,955	0,965
Engler viscosity at 50°C	6-12	12	30
Sulphur content, %, max.	0,8	2,5	2,5
Content of water and sediments, %, max.	1,25	2,0	2,0
Pour point, °C, not above	-8	-5	+10
Flash point (in a closed cup) °C, not below	90	75	85
Net calorific value kcal/kg ..	9870	9600	9600

COAL-TAR BENZOL

Coal-tar benzol is used in many branches of industry mainly as raw material for manufacturing of dyes and lacquers, styrene and synthetic phenol, alkylates as well as a solvent in producing aviation oils. Commercial benzol is to answer the requirements of high purity which is achieved by narrow limits of boiling points; of absence of unsaturated hydrocarbons the contents of which is controlled by the bromine number; as well as of low sulphur content and sulphur compounds.

Coal-tar benzol is of the following characteristics:

Appearance	transparent fluid
Density at 20°C, within	0,875-0,880
Fractional composition at 760 mm Hg: initial boiling point, °C, not below	79
end point, °C, not above	80,6
distilled within 1°C, by value, %, min.	95
Sulphuric acid wash colour by Kramer-Spilker, max.	0,5
Bromine number, not above	0,6
Pour point, °C, not below	+4,8

AVIATION OILS

Aviation oils are manufactured from specially selected fat oils of a superior quality, that secure stable greasing and uninterrupted work of modern aircraft engines.

The aviation oils are of the following characteristics:

Characteristics	Aviation oil grades MC-20	MK-22
Kinematic viscosity at 100°C c.st. min.	20	22
Carbon content by Konradson, %, max.	0,3	0,7
Acid number, mg KOH per g, max. ..	0,05	0,1
Flash point by Pensky-Martens, °C, not below	225	230
Pour point, °C, not above	-18	-14
Density at 20°C, not above	0,895	0,905
Ash content, %, max.	0,003	0,004

MACHINE OIL "CY"

Machine oil "CY" is manufactured from first-grade fat oils and used for lubricating mechanisms operating under great stress and at low speeds, for speed diesel engines and for cylinders of rotary compressors. This oil is also used for manufacturing gas and motor oils.

The turbine oils are of the following characteristics:

Characteristics	Oil grades L	UT	T	TR
Kinematic viscosity at 50°C, c.st.	20-23	28-32	44-48	55-59
Acid number, mg KOH per g, max.	0,02	0,02	0,02	0,05
Acid number after oxidation, mg KOH. per g, max.	0,35	0,35	0,45	-
Speed of demulsification, min. max.	3	6	5	9
Flash point (in an open cup), °C, not below	180	180	195	195
Pour point, °C, not above	-15	-10	-10	-
Ash content, %, max.	0,005	0,005	0,020	0,040

The machine oil "C Y" is of the following characteristics:

Density at 20°C, max.	0,906
Engler viscosity at 50°C, max.	7,86
Flash point (in an open cup), °C, not below ...	200
Pour point, °C, not above	-20
Colour in marks NPA, max.	3,5

SPINDLE OIL "2"

Spindle oil "2" manufactured from Baku oils is widely used in the textile and machine-building industry for lubrication of different mechanisms, including spindles, bearings of low-powered motors with circulating type of oil supply, for hydro systems working at low pressure, for piston series of ammoniac compressors.

Having low pour-point, this oil can provide lubrication of mechanisms working in conditions of low temperatures.

The spindle oil "2" is of the following characteristics:

Density at 20°C, max.	0,900
Engler viscosity at 50°C	1,8-2,2
Flash point (in an open cup), °C, not below	165
Pour point, °C, not above	-30
Colour in marks NPA, max.	2,5

TURBINE OILS

Turbine oils are used for lubrication and cooling of bearings of steam and water turbines, turbocompressors, turboblowers, various pumps and other mechanisms having a circular type lubrication system. They are manufactured from distillates of light fat oils, mainly of Apsheron and Emba origin and are notable for high stability against oxidation and high demulsifying ability.