

Date: 10/Apr/2024

Analytical Report: SP23-00581.001 Reissue: 7**** This Report cancels and supersedes the Report No. SP23-00581.001****Dated 23/Jun/2023 issued by SGS.****Lohrhof GmbH
Waidach 124/1
Adnet
AUSTRIA
5421**Reissue Comment: chang to english language**

The results shown in this test report specifically refer to the sample(s) tested as received unless otherwise stated. All tests have been performed using the latest revision of the methods indicated, unless specifically marked otherwise on the report. Precision parameters apply in the determination of the above results. Precision data are calculated on request. Users of the data shown on this report should refer to the latest published revisions of ASTM D-3244; IP 367; ISO 4259 and Appendix E of IP Standard Methods for Analysis and Testing when utilising the test data to determine conformance with any specification or process requirement. Analytical Reports are sent as pdf file without signature. A signed document will be sent on request. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

This laboratory is accredited under ISO/IEC 17025. The results reported herein have been performed in accordance with the laboratory's term of accreditation except tests marked with an asterisk (*) in this report which are not within the scope of accreditation for our laboratory.

264236525

CLIENT ORDER NUMBER :		SGS ORDER NO.:	72821390_6524283
CLIENT ID :	Diesel	PRODUCT DESCRIPTION :	Diesel
SAMPLE SOURCE :	Petrol station	SOURCE ID :	8
SAMPLE TYPE :	As submitted	SAMPLED BY :	SGS
SAMPLED :	--	RECEIVED :	01/Mrz/2023
ANALYSED :	06/Mrz/2023 - 14/Apr/2023	COMPLETED :	05/Mai/2023
SUB-SAMPLE :	[1: 5 Litre Can]		
REPORT COMMENT :	Zum Abgleich wurden die Limits der Spezifikation EN590 genutzt.		

The limits of the EN590 specification were used for comparison.

PROPERTY	METHOD	RESULT	UNITS	MIN	MAX
Density at 15°C	DIN EN ISO 12185:1997	831,5	kg/m³	820,0	845,0
Kinematic Viscosity at 40°C	DIN EN ISO 3104:2024-04	2,370	mm²/s	2,000	4,500
Flash Point Pensky-Martens Closed Cup Method	DIN EN ISO 2719:2021-06				
Observed Pressure		99,4	kPa	--	--
Flash Point PM (Closed cup) - Procedure A		56,5	°C	>55,0	--
Distillation at Atmospheric Pressure	DIN EN ISO 3405:2019-09				
Initial boiling point (IBP)		165,9	°C	--	--
5% Recovered at		188,3	°C	--	--
10% Recovered at		194,1	°C	--	--
20% Recovered at		207,6	°C	--	--
30% Recovered at		222,3	°C	--	--
40% Recovered at		239,3	°C	--	--
50% Recovered at		256,9	°C	--	--
60% Recovered at		275,3	°C	--	--
70% Recovered at		294,6	°C	--	--
80% Recovered at		314,1	°C	--	--
90% Recovered at		333,2	°C	--	--

AUTHORISED SIGNATORY

i.V. Dr. NICO HOHLBEIN
Division Manager Lab Operations

1004202411500000075631

Page 1 of 6

OGC-EN_Report-2014-12-10_v60a

SGS Germany GmbH

Am Neuen Rheinhafen 12a, D-67346 Speyer, Germany (t)+49 6232 1301-0

Member of the SGS Group (Société Générale de Surveillance)

Geschäftsführer: Dr. Tomasz P. Bednarczyk, Sitz der Gesellschaft: Hamburg, HRB 4951 Amtsgericht Hamburg, Aufsichtsratsvorsitzender: Malcolm Reid

Date: 10/Apr/2024

Analytical Report: SP23-00581.001 Reissue: 7**** This Report cancels and supersedes the Report No. SP23-00581.001****Dated 23/Jun/2023 issued by SGS.****Lohrhof GmbH
Waidach 124/1
Adnet
AUSTRIA
5421**Reissue Comment: chang to english language**

This laboratory is accredited under ISO/IEC 17025. The results reported herein have been performed in accordance with the laboratory's term of accreditation except tests marked with an asterisk (*) in this report which are not within the scope of accreditation for our laboratory.

PROPERTY	METHOD	RESULT UNITS	MIN	MAX
95% Recovered at		346,9 °C	--	360
Final boiling point (FBP)		358,4 °C	--	--
Residue		1,0 % (v/v)	--	--
Loss		0,5 % (v/v)	--	--
Recovered at 180°C		1,4 % (v/v)	--	--
Recovered at 250°C		46,2 % (v/v)	--	<65
Recovered at 300°C		72,7 % (v/v)	--	--
Recovered at 340°C		92,9 % (v/v)	--	--
Recovered at 350°C		95,8 % (v/v)	85	--
Sulfur	DIN EN ISO 20846:2019-12	7,9 mg/kg	--	10,0
Ash	DIN EN ISO 6245:2003	<0,001 % (m/m)	--	0,010
Carbon Residue (on 10 % Distillation Residue) - Micro Method	DIN EN ISO 10370:2015	<0,10 % (m/m)	--	0,30
Cetane Index by Four-variable Equation	DIN EN ISO 4264:2018	50,7 Rating	46,0	--
Gross Calorific Value by Bomb Calorimeter, Adiabatic Jacket *	DIN 51900:2023-12			
Gross Calorific Value *		45,539 MJ/kg	--	--
Net Calorific Value *		42,739 MJ/kg	--	--
Copper Strip corrosion (3 h / 50 °C)	DIN EN ISO 2160:1999	1a Rating	--	1
Water Content by Coulometric KF	DIN EN ISO 12937:2002	0,005 % (m/m)	--	0,020
Total Contamination	DIN EN 12662:2014	<12,0 mg/kg	--	24
Appearance *	Visual	Clear & Bright	hell und klar	
Color *	Visual	Yellow	--	--
Elements in Diesel - ICP OES *	SGS M2534			
Iron *		<0,1 mg/kg	--	--
Aluminium *		<0,1 mg/kg	--	--
Copper *		<0,1 mg/kg	--	--
Lead *		<0,1 mg/kg	--	--
Tin *		<0,1 mg/kg	--	--
Chromium *		<0,1 mg/kg	--	--
Nickel *		<0,1 mg/kg	--	--
Zinc *		<0,1 mg/kg	--	--
Phosphorus *		<0,1 mg/kg	--	--
Magnesium *		<0,1 mg/kg	--	--

This document is only valid in its entirety and your attention is drawn to the Terms and Conditions on Page 1 of this report

AUTHORISED SIGNATORY

i.V. Dr. NICO HOHLBEIN
Division Manager Lab Operations

1004202411500000075631

Page 2 of 6

OGC-EN_Report-2014-12-10_v60a

SGS Germany GmbH

Am Neuen Rheinhafen 12a, D-67346 Speyer, Germany (t)+49 6232 1301-0

Date: 10/Apr/2024

Analytical Report: SP23-00581.001 Reissue: 7**** This Report cancels and supersedes the Report No. SP23-00581.001****Dated 23/Jun/2023 issued by SGS.****

Lohrhof GmbH

Waidach 124/1

Adnet

AUSTRIA

5421

Reissue Comment: chang to english language

This laboratory is accredited under ISO/IEC 17025. The results reported herein have been performed in accordance with the laboratory's term of accreditation except tests marked with an asterisk (*) in this report which are not within the scope of accreditation for our laboratory.

PROPERTY	METHOD	RESULT UNITS	MIN	MAX
Calcium *		<0,1 mg/kg	--	--
Sodium *		<0,1 mg/kg	--	--
Molybdenum *		<0,1 mg/kg	--	--
Silicon *		0,4 mg/kg	--	--
Barium *		<0,1 mg/kg	--	--
Potassium *		<0,1 mg/kg	--	--
Titanium *		<0,1 mg/kg	--	--
Vanadium *		<0,1 mg/kg	--	--
Boron *		<0,1 mg/kg	--	--
Manganese *		<0,1 mg/kg	--	--
Cer *		<0,1 mg/kg	--	--
Silver *		<0,1 mg/kg	--	--
Cobalt *		<0,1 mg/kg	--	--
Lithium *		<0,1 mg/kg	--	--
Cadmium *		<0,1 mg/kg	--	--

This document is only valid in its entirety and your attention is drawn to the Terms and Conditions on Page 1 of this report

AUTHORISED SIGNATORY



i.V. Dr. NICO HOHLBEIN

Division Manager Lab Operations

1004202411500000075631

SGS Germany GmbH

Page 3 of 6

Am Neuen Rheinhafen 12a, D-67346 Speyer, Germany (t)+49 6232 1301-0

OGC-EN_Report-2014-12-10_v60a

Date: 10/Apr/2024

Analytical Report: SP23-00581.002 Reissue: 7**** This Report cancels and supersedes the Report No. SP23-00581.002****Dated 23/Jun/2023 issued by SGS.****Lohrhof GmbH
Waidach 124/1
Adnet
AUSTRIA
5421**Reissue Comment: chang to english language**

This laboratory is accredited under ISO/IEC 17025. The results reported herein have been performed in accordance with the laboratory's term of accreditation except tests marked with an asterisk (*) in this report which are not within the scope of accreditation for our laboratory.

264236525

CLIENT ORDER NUMBER :		SGS ORDER NO.:	72821390_6524283
CLIENT ID :	Diesel mit FeroxTM der Fa. Rennsli Corp	PRODUCT DESCRIPTION :	Diesel
SAMPLE SOURCE :	Petrol station	SOURCE ID :	8
SAMPLE TYPE :	As submitted	SAMPLED BY :	SGS
SAMPLED :	--	RECEIVED :	01/Mrz/2023
ANALYSED :	06/Mrz/2023 - 14/Apr/2023	COMPLETED :	05/Mai/2023
SUB-SAMPLE :	[1: 5 Litre Can]		
SAMPLE COMMENT :	Mischungsverhältnis: 0,0624g FeroxTM auf 4,68l Diesel		
REPORT COMMENT :	Zum Abgleich wurden die Limits der Spezifikation EN590 genutzt.		

The limits of the EN590 specification were used for comparison.

PROPERTY	METHOD	RESULT	UNITS	MIN	MAX
Density at 15°C	DIN EN ISO 12185:1997	831,5	kg/m³	820,0	845,0
Kinematic Viscosity at 40°C	DIN EN ISO 3104:2024-04	2,370	mm²/s	2,000	4,500
Flash Point Pensky-Martens Closed Cup Method	DIN EN ISO 2719:2021-06				
Observed Pressure		99,4	kPa	--	--
Flash Point PM (Closed cup) - Procedure A		56,5	°C	>55,0	--
Distillation at Atmospheric Pressure	DIN EN ISO 3405:2019-09				
Initial boiling point (IBP)		168,4	°C	--	--
5% Recovered at		186,3	°C	--	--
10% Recovered at		193,5	°C	--	--
20% Recovered at		207,6	°C	--	--
30% Recovered at		222,2	°C	--	--
40% Recovered at		238,6	°C	--	--
50% Recovered at		256,2	°C	--	--
60% Recovered at		274,8	°C	--	--
70% Recovered at		293,6	°C	--	--
80% Recovered at		313,2	°C	--	--
90% Recovered at		332,1	°C	--	--
95% Recovered at		346,2	°C	--	360
Final boiling point (FBP)		357,6	°C	--	--
Residue		1,0	% (v/v)	--	--
Loss		0,5	% (v/v)	--	--
Recovered at 180°C		2,0	% (v/v)	--	--
Recovered at 250°C		46,5	% (v/v)	--	<65

This document is only valid in its entirety and your attention is drawn to the Terms and Conditions on Page 1 of this report

AUTHORISED SIGNATORY

i.V. Dr. NICO HOHLBEIN
Division Manager Lab Operations

1004202411500000075631

Page 4 of 6

OGC-EN_Report-2014-12-10_v60a

SGS Germany GmbH

Am Neuen Rheinhafen 12a, D-67346 Speyer, Germany (t)+49 6232 1301-0

Date: 10/Apr/2024

Analytical Report: SP23-00581.002 Reissue: 7**** This Report cancels and supersedes the Report No. SP23-00581.002****Dated 23/Jun/2023 issued by SGS.****Lohrhof GmbH
Waidach 124/1
Adnet
AUSTRIA
5421**Reissue Comment: chang to english language**

This laboratory is accredited under ISO/IEC 17025. The results reported herein have been performed in accordance with the laboratory's term of accreditation except tests marked with an asterisk (*) in this report which are not within the scope of accreditation for our laboratory.

PROPERTY	METHOD	RESULT	UNITS	MIN	MAX
Recovered at 300°C		73,0	% (v/v)	--	--
Recovered at 340°C		93,2	% (v/v)	--	--
Recovered at 350°C		95,9	% (v/v)	85	--
Sulfur	DIN EN ISO 20846:2019-12	7,8	mg/kg	--	10,0
Ash	DIN EN ISO 6245:2003	<0,001	% (m/m)	--	0,010
Carbon Residue (on 10 % Distillation Residue) - Micro Method	DIN EN ISO 10370:2015	<0,10	% (m/m)	--	0,30
Cetane Index by Four-variable Equation	DIN EN ISO 4264:2018	50,5	Rating	46,0	--
Gross Calorific Value by Bomb Calorimeter, Adiabatic Jacket *	DIN 51900:2023-12				
Gross Calorific Value *		45,537	MJ/kg	--	--
Net Calorific Value *		42,757	MJ/kg	--	--
Copper Strip corrosion (3 h / 50 °C)	DIN EN ISO 2160:1999	1a	Rating	--	1
Water Content by Coulometric KF	DIN EN ISO 12937:2002	0,005	% (m/m)	--	0,020
Total Contamination	DIN EN 12662:2014	<12,0	mg/kg	--	24
Appearance *	Visual	Clear & Bright	---	hell und klar	
Color *	Visual	Yellow	---	--	--
Elements in Diesel - ICP OES *	SGS M2534				
Iron *		0,9	mg/kg	--	--
Aluminium *		<0,1	mg/kg	--	--
Copper *		<0,1	mg/kg	--	--
Lead *		<0,1	mg/kg	--	--
Tin *		<0,1	mg/kg	--	--
Chromium *		<0,1	mg/kg	--	--
Nickel *		<0,1	mg/kg	--	--
Zinc *		<0,1	mg/kg	--	--
Phosphorus *		<0,1	mg/kg	--	--
Magnesium *		<0,1	mg/kg	--	--
Calcium *		<0,1	mg/kg	--	--
Sodium *		<0,1	mg/kg	--	--
Molybdenum *		<0,1	mg/kg	--	--
Silicon *		0,5	mg/kg	--	--
Barium *		<0,1	mg/kg	--	--
Potassium *		<0,1	mg/kg	--	--

This document is only valid in its entirety and your attention is drawn to the Terms and Conditions on Page 1 of this report

AUTHORISED SIGNATORY

i.V. Dr. NICO HOHLBEIN
Division Manager Lab Operations

1004202411500000075631

Page 5 of 6

OGC-EN_Report-2014-12-10_v60a

SGS Germany GmbH

Am Neuen Rheinhafen 12a, D-67346 Speyer, Germany (t)+49 6232 1301-0

Date: 10/Apr/2024

Analytical Report: SP23-00581.002 Reissue: 7**** This Report cancels and supersedes the Report No. SP23-00581.002****Dated 23/Jun/2023 issued by SGS.****Lohrhof GmbH
Waidach 124/1
Adnet
AUSTRIA
5421**Reissue Comment: chang to english language**

This laboratory is accredited under ISO/IEC 17025. The results reported herein have been performed in accordance with the laboratory's term of accreditation except tests marked with an asterisk (*) in this report which are not within the scope of accreditation for our laboratory.

PROPERTY	METHOD	RESULT UNITS	MIN	MAX
Titanium *		<0,1 mg/kg	--	--
Vanadium *		<0,1 mg/kg	--	--
Boron *		<0,1 mg/kg	--	--
Manganese *		<0,1 mg/kg	--	--
Cer *		<0,1 mg/kg	--	--
Silver *		<0,1 mg/kg	--	--
Cobalt *		<0,1 mg/kg	--	--
Lithium *		<0,1 mg/kg	--	--
Cadmium *		<0,1 mg/kg	--	--
** End of Analytical Results **				

This document is only valid in its entirety and your attention is drawn to the Terms and Conditions on Page 1 of this report

AUTHORISED SIGNATORY

i.V. Dr. NICO HOHLBEIN
Division Manager Lab Operations

1004202411500000075631

SGS Germany GmbH

Page 6 of 6

Am Neuen Rheinhafen 12a, D-67346 Speyer, Germany (t)+49 6232 1301-0

OGC-EN_Report-2014-12-10_v60a