



Test Report

No.4354439-CH01

Date: September 20, 2018

Page 1 of 9

Permawick Company
3110 Permawick Drive
Columbus, IN 47201
United States

The following sample(s) was/were submitted and identified by/on behalf of the client as:

Electric Motor Lubricating Oil
Model/Part No.: Covers Oil and NP, NPW, PP, HH, FHH Series for : P2AO, Mineral Oil (280-284-PW280SR-284 antileak-285-286, 400, 415, 420), TFL18, PMO300, PHC, DM, PSL(Esters), 250, SHC, LT200, PS207, HT300, AR456, AR465, Syn440, PWS(Silicones) & PDS
Country of Destination: World Wide

Sample Received Date:

8/22/2018

Testing Period

8/30/2018 – 9/14/2018

As requested by client, SVHC screening is performed according to:

Test Requested:

Ten (10) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before June 27, 2018 regarding Regulation (EC) No 1907/2006 concerning the REACH.

Test Results:

Please refer to next page(s).

Summary:

According to the specified scope and analytical techniques, concentrations of tested SVHC are $\leq 0.1\%$ (w/w) in the submitted sample.

PASS

Signed for and on behalf of SGS North America, Inc.

Sandip Ramolia
Senior Analytical Chemist, Chemistry Laboratory

Prepared By:

Shaina Gibbons
Report Writer, Chemistry Laboratory

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.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. This document cannot be reproduced except in full, without prior written approval of the Company. 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. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 45 days only."

Remark:

1. The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:

- <http://echa.europa.eu/web/guest/candidate-list-table> (Candidate list)

These lists are under evaluation by ECHA and may subject to change in the future.

2. Test results in this report are based on the tested sample.

This report refers to testing result of composite material group by equal weight proportion. The material in each composite test group may come from more than one article.

3. If a SVHC is found over 0.1% (w/w), client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

4. If the sample is a substance or mixture, and it directly exports to EU, client has the obligation to comply with the supply chain communication obligation under Article 31 of Regulation (EC) No. 1907/2006 and the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006.

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.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. This document cannot be reproduced except in full, without prior written approval of the Company. 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. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 45 days only."

Test Sample:

Sample Description:

Sample No.	Material Type	Description
1	S/M	Electric Motor Lubrication Oil – Model/Part No.: Covers Oil and NP, NPW, PP, HH, FHH, Series for: P2AO, Mineral Oil (280-284-PW280SR-284 antileak-285-286, 400, 415, 420), TFL18, PMO300, PHC, DM, PSL(Esters), 250, SHC, LT200, PS207, HT300, AR456, AR465, Syn440, PWS (Silicones) & PDS

Material group references:

- OM : Organic matter (natural and synthetic fabric, wood, paper and leather)
- P : Polymer and Elastomer (PVC, PET, ABS, etc.)
- M : Metals (alloy, stainless steel, aluminum, brass)
- G/C : Glass and Ceramic
- S/M : Substance or Mixture (desiccant, ink, chemical etc.)
- PCB : Printed circuit board
- B : Battery

“This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.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. This document cannot be reproduced except in full, without prior written approval of the Company. 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. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 45 days only.”



Test Report

No.4354439-CH01

Date: September 20, 2018

Page 4 of 9

Test Method:

SGS In-House method - Analyzed by ICP-OES, GC-MS, UV-VIS, HPLC-DAD, HPLC-MS and colorimetric method

Test Result (per sample): Sample 1

No.	Substance Name	CAS No./ EC No.	RL (%)	Concentration (%)
-	All tested SVHC	-	-	ND

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.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. This document cannot be reproduced except in full, without prior written approval of the Company. 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. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 45 days only."

Notes:

- (1) The table above only shows detected SVHC, and SVHC that below RL are not reported. Please refer to Appendix for the full list of tested SVHC.
- (2) RL = Reporting Limit. All RL are based on homogenous material
 ND = Not detected (lower than RL), ND is denoted on the SVHC substance.
 NA[^] = Upon further test verification on the specific detected element(s) of SVHC and also information provided from client, the possibility that the element(s) content originate from SVHC is very unlikely, even though their presence cannot be exclude entirely. It may be assumed that the detected element(s) have a non-SVHC source.
- (3) ^Δ CAS No. of diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD): 134237-50-6, 134237-51-7, 134237-52-8
 ☆ CAS No. of Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride: 25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9; EC No. of those: 247-094-1, 243-072-0, 256-356-4, 260-566-1.
- (4) (For all SVHC testing)
 * The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. For detail information, please refer to the SGS REACH website:
www.reach.sgs.com/substance-of-very-high-concern-analysis-information-page.htm
- Calculated concentration of boric compounds are based on the total boron for liquid, powder and paste samples and water extractive boron for other samples by ICP-OES.
- RL = 0.01% is evaluated for element (i.e. cobalt, arsenic, lead, chromium (VI), aluminum, zirconium, boron, strontium, zinc, antimony, titanium, barium and cadmium respectively), except molybdenum RL=0.001%, boron RL=0.005% (only for Lead bis(tetrafluoroborate)), chromium (VI) RL=0.005% (only for Pentazinc chromate octahydroxide).
- (5) (For 4 pigment substances in the latest 13 SVHC in candidate list)
[§] The substance is proposed for the identification as SVHC only where it contains Michler's ketone (CAS Number: 90-94-8) or Michler's base (CAS Number: 101-61-1) ≥0.1% (w/w).
- (6) (For all mixed testing)
 Composite test has been performed in equal proportion for the components/material per client requested. And the result is calculated using the minimum sample weight.
- (7) (For substance and preparation exported to Europe directly)
[◇] SCL = Specific Concentration Limit. All SCL are set out in Regulation (EC) No 1272/2008 and Commission Regulation (EC) No 790/2009. Specific concentration limits and generic concentration limits are limits assigned to a substance indicating a threshold at or above which the presence of that substance in another substance or in a mixture as an identified impurity, additive or individual constituent leads to the classification of the substance or mixture as hazardous.
 The SVHCs with lowest SCL values <0.1% include: Cobalt dichloride (SCL 0.01%), Cobalt(II) carbonate (SCL 0.01%), Cobalt(II) diacetate (SCL 0.01%), Cobalt(II) dinitrate (SCL 0.01%),

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.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. This document cannot be reproduced except in full, without prior written approval of the Company. 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. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 45 days only."

Cobalt(II) sulphate (SCL 0.01%), 4-(1,1,3,3-tetramethylbutyl)phenol (SCL 0.025%), Cadmium chloride (SCL 0.01%).

+ Client has the obligation to comply with the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006, unless the use has been exempted from Authorization. Article 56(6) of Regulation (EC) No. 1907/2006 specified the concentration limit requirement of Authorization of SVHC in mixture.

The ECHA SVHC authorization list (Feb 18, 2011) is available at

http://echa.europa.eu/reach/authorisation_under_reach/authorisation_list_en.asp

These lists are under evaluation by ECHA and may subject to change in the future

(8) (for consultation list)

/ = Substances in the Consultation List of SVHC

(9) In consideration of the analysis requirement and the limit of sample volume, the screening test for the article is based on components / material enough to test.

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.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. This document cannot be reproduced except in full, without prior written approval of the Company. 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. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 45 days only."

Sample Photo:



SGS authenticates the photo on the original report only

*** End of Report ***

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.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. This document cannot be reproduced except in full, without prior written approval of the Company. 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. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 45 days only."

Appendix

No.	Substance Name	CAS No./ EC No.	RL (%)	No.	Substance Name	CAS No./ EC No.	RL (%)
Candidate List of Substances of Very High Concern (SVHC) for authorization published on Jun 27, 2018							
182	Terphenyl, Hydrogenated	61788-32-7	0.050	183	Octamethylcyclotetrasiloxane (D4)	556-67-2	0.050
184	Lead	231-100-4	0.002	185	Ethylenediamine (EDA)	107-15-3	0.050
186	Dodecamethylcyclohexasiloxane (D6)	540-97-6	0.050	187	Disodium Octaborate	12008-41-2	0.050
188	Dicyclohexyle Phthalate (DCHP)	84-61-7	0.050	189	Decamethylcyclopentasiloxane (D5)	541-02-6	0.050
190	Benzo[ghi]perylene	191-24-2	0.050	191	Benzene-1,2,3-Tricarboxylic Acid 1,2 Anhydride (TMA)	552-30-7	0.050

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.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. This document cannot be reproduced except in full, without prior written approval of the Company. 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. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 45 days only."

Notes :

- 1 RL = Reporting Limit. All RL are based on homogenous material
- 2 # SCL = Specific Concentration Limit. All SCL are set out in Regulation (EC) No 1272/2008 and its amendments. Specific concentration limits and generic concentration limits are limits assigned to a substance indicating a threshold at or above which the presence of that substance in another substance or in a mixture as an identified impurity, additive or individual constituent leads to the classification of the substance or mixture as hazardous. The SVHCs with SCL values <0.1% are specified in the test result tables.

* The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. For detail information, please refer to the SGS REACH website:

<http://www.sgs.com/en/Consumer-Goods-Retail/Toys-and-Juvenile-Products/Toys/REACH/Management-of-SVHC.aspx>

The client is advised to review the chemical formulation to ascertain above metal substances present in the article.

RL = 0.01% for organic substances, 0.001% is evaluated for element (i.e. aluminum, antimony, arsenic, barium, boron, cadmium, calcium, chromium, chromium (VI), cobalt, lead, potassium, silicon, sodium, strontium, titanium, zirconium and zinc respectively), except molybdenum RL = 0.0001%.

▼ Regulation (EC) No 1272/2008 Classification, Labelling and Packaging of Substances and Mixtures, and its amendments.

* Client has the obligation to comply with the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006, unless the use has been exempted from Authorization. Article 56(6) of Regulation (EC) No. 1907/2006 specified the concentration limit requirement of Authorization of SVHC in mixture.

The ECHA SVHC authorization list (Jun 13, 2017) is available at

<https://echa.europa.eu/addressing-chemicals-of-concern/authorisation/recommendation-for-inclusion-in-the-authorisation-list/authorisation-list>

This list is under evaluation by ECHA and may subject to change in the future.

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.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. This document cannot be reproduced except in full, without prior written approval of the Company. 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. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 45 days only."