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ANHYDROUS SODIUM SULPHATE

DETERGENT GRADE PRODUCT INFORMATION SHEET WITH TRACE CONSTITUENTS

Meets FCC and Kosher Requirements
Effective: January 1, 2014

Location.....Chaplin Plant
Material SourceNatural Lake Deposit
ProcessMultiple Effect Evaporators

NOTE: The chemical, screen and physical data are average values for production for a recent twelve month period and are not to be construed as guarantees. Individual shipments may be subject to normal variation from the typical.

AVERAGE CHEMICAL ANALYSIS:

Sodium Sulphate	*Na ₂ S ₀₄	99.30%
Calcium Sulphate	CaS ₀₄	0.09%
Magnesium Sulphate.....	MgS ₀₄	0.31%
Sodium Carbonate	Na ₂ C ₀₃	0.00%
Sodium Bicarbonate	NaHC ₀₃	0.05%
Sodium Chloride.....	NaCl	0.24%
Water Insolubles.....		0.01%

* Minimum 99.0% by Difference

TYPICAL TRACE CONSTITUENTS:

Moisture.....		0.041%
Iron	Fe in ppm	3.69

AVERAGE SCREEN ANALYSIS:

U.S. Screen Sieve Size	Percent of Total	Percent Cumulative
+ 20	0.2%	0.2%
- 20 + 40	1.5%	1.7%
- 40 + 60	8.2%	9.9%
- 60 + 100	33.7%	43.6%
- 100 + 200	42.3%	85.9%
- 200	14.1%	100.0%

MATERIAL DATA:

Chemical NameAnhydrous Sodium Sulphate
Chemical FormulaNa₂S₀₄
Molecular Weight.....142.04
CAS Number7757-82-6

PHYSICAL DATA:

AppearanceWhite Granular Powder
Specific Gravity.....2.7
Melting Point.....882°C
pH of Solution 6.33 @ 1% by weight
7.00 @ 5% by weight
7.61 @ 10% by weight
Bulk Density.....87.01 lb/cu.ft Free Flow
Solubility @ 20°C.....15.9 % by weight
Reflectance.....90.5 avg ASTM E 97
Angle of Repose.....32°

NUTRITION DATA:

Sodium.....32.25%
Sulphur22.52%
Magnesium0.063%
Calcium.....0.026%

MISCELLANEOUS:

Packaging.....50 pound Bags and Supersacs
Bulk Shipments100-114 ton Rail Hopper Cars
and 25 - 50 ton Bulk Trucks
RailroadsCanadian Pacific Railway
Canadian National Railway
Food ChemicalsMeets FCC Specifications,
Eighth Edition, 2012
KosherCertified as Kosher
ISO9001:2008Certified System - QMI SAI Global

The listed information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purpose.

Please contact us regarding any questions you may have concerning this information, or regarding any other data not detailed in this publication.

Information concerning the handling and use of this product is provided in the Material Safety Data Sheet (MSDS) available by contacting SASKATCHEWAN MINING & MINERALS INC. The MSDS must be fully read and understood prior to any exposure, handling or use of the product.

TRACE CONSTITUENTS - Chaplin				
ELEMENT	SYMBOL	TEST METHOD	CONCENTRATIONS (ppm or ug/g)	
ALUMINUM	Al	ICP-AES	<3.5	TOTAL
ANTIMONY	Sb	ICP-MS	<0.2	TOTAL
ARSENIC	As	ICP-AES	<0.5	TOTAL
BORON	B	ICP-AES	2.1	TOTAL
BROMIDE	Br	ICP-AES	15	TOTAL
CADMIUM	Cd	ICP-AES	<0.001	INSOLS
CADMIUM	Cd	ICP-AES	<0.001	SOLUBLE
CHROMIUM	Cr	ICP-AES	0.038	INSOLS
CHROMIUM	Cr	ICP-AES	<0.001	SOLUBLE
COBALT	Co	ICP-AES	0.002	INSOLS
COBALT	Co	ICP-AES	<0.001	SOLUBLE
COPPER	Cu	ICP-AES	0.009	INSOLS
COPPER	Cu	ICP-AES	0.014	SOLUBLE
IRON	Fe	ICP-AES	3.59	INSOLS
IRON	Fe	ICP-AES	0.10	SOLUBLE
LEAD	Pb	ICP-AES	0.005	INSOLS
LEAD	Pb	ICP-AES	<0.002	SOLUBLE
MANGANESE	Mn	ICP-AES	0.7	TOTAL
MERCURY	Hg	AA	<0.002	TOTAL
NICKEL	Ni	ICP-AES	0.023	INSOLS
NICKEL	Ni	ICP-AES	0.014	SOLUBLE
PHOSPHORUS	P	ICP-AES	<1	TOTAL
PLATINUM	Pt	ICP-AES	<0.2	TOTAL
POTASSIUM	K	ICP-AES	310	
SELENIUM	Se	ICP-AES	<0.5	TOTAL
SILICON	Si	GRAVIMETRIC	35	INSOLS
TELLURIUM	Te	ICP-MS	<0.5	TOTAL
ZINC	Zn	ICP-AES	0.018	INSOLS
ZINC	Zn	ICP-AES	0.043	SOLUBLE

- AA TEST METHOD - Atomic absorption.
- ICP-AES TEST METHOD - Inductively coupled plasma - atomic emissions spectroscopy.
- ICP-MS TEST METHOD - Inductively coupled plasma - mass spectroscopy
- <0.001 denotes concentrations below the confident detection limits of the test used.
- PPM and UG/G are equivalent measurements.
- The above results were obtained for a single typical sample. Concentrations for individual shipments may vary from the above.