BORYGO RUNWAY SF/NW-058

RUNWAY DEICING SOLID

TECHNICAL DATA SHEET

(SAE AMS 1431 D)

BORYSZEW S.A. ODDZIAŁ BORYSZEW ERG W SOCHACZEWIE

www.boryszewerg.com.pl
www.borygo.pl
+(48 46) 863 02 01
aerochemicals@boryszewerg.com.pl

Product Description

Borygo Runway SF/NW-058 is a technologically advanced and effective runway deicing solid based on sodium formate. It can be applied to runways, taxiways, aprons and it contains a corrosion inhibitor system protecting elements made from metals and alloys used in the aviation industry. The active ingredient content is no less than 98 %.
Borygo Runway SF/NW-058 is a white, irregular granular and environment friendly deicer.

Physical Properties

Property	SAE AMS 1431 D requirement	Borygo Runway SF/NW-058 Typical Value
Chemical Composition	**98% sodium formate containing a corrosion inhibitor system**	
Appearance	**Irregular granule, uniform, free-flowing and free from foreign material**	
Color	**White**	
Flash Point	Not lower than 93 °C (ASTM D56)	**Conforms (No flash to 100 °C)**
pH	Preproduction value ± 0,5 (ASTM E70)	**11,7 @ 15 % solution by weight**
Freezing Point	Preproduction value ± 4° C (+7° F)	**- 2 °C @ 5 % solution - 5 °C @ 10 % solution - 9 °C @ 15 % solution (Effective down to - 18 °C)**
Water Content	Informational (ASTM E 203)	**< 1,0 %**
Chloride Content	Shall not exceed 250 ppm (APHA Standard Methods / Method 112A)	**125 ppm**

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Storage Stability	Shall not deliquesce or otherwise deteriorate (AMST F 1104)	**Conforms**
Particle Size	-	**> 2 mm** **< 8 mm**

Biodegrability & Ecological Behaviour

Property	**SAE AMS 1431 D requirement**	**Borygo Runway SF/NW-058 Typical Value**
BOD	APHA Standard Methods @ 20°C	**0,14 kg O_2/kg solid (5 day)** **0,15kg O_2/kg solid (15 day)** **0,15 kg O_2/kg solid (20 day)**
COD	APHA Standard Methods	**0,27 kg O_2/kg solid**
Percent Biodegrad.	APHA Standard Methods	**0,51 (5 day)** **0,55 (15 day)** **0,55 (20 day)**
Daphnid Acute Toxicity Test	EPA 40 CFR 797.1300 48 hours LC_{50}	**1,475 mg/L**
Fish Acute Toxicity Test	EPA 40 CFR 797.1400 96 hours LC_{50}	**3,225 mg/L**

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Summary of Trace Contaminants Results

	SAE AMS 1431 D requirement	Borygo Runway SF/NW-058 Typical Value
Sulfur	Informational	**< 0,0179 %**
Halogens		**0,0148 %**
Phosphate (P as P_2O_5)		**0,0912 %**
Nitrate (as NO_3)		**< 0,0002 %**
Lead (Pb)		**< 0,0001 %**
Chromium (Cr)		**< 0,0001 %**
Cadmium (Cd)		**< 0,0001 %**
Mercury (Hg)		**< 0,0001 %**

Material Compatibility

Aluminum alloys (Bare & Anodized)	Acrylic paints
Magnesium alloys (dichromate)	Painted & Unpainted surfaces
Titanium alloy	Asphalt concrete (71 % adhesion value)
Carbon Steel	Cement Concrete
Cadmium plated steel	Concrete (Rating ≤ 1)
Acrylic plastic	Concrete fillers
Polycarbonate plastic	…

Suggested Application Rates

Frost < 1 mm ice		Snow / Ice 1 to 3 mm	
0 to -5° C	10 - 20 g/m2	0 to -5°C	25 - 40 g/m2
-5 to -10° C	20 - 30 g/m2	-5 to -10°C	40 - 50 g/m2

Note 1: Borygo Runway SF/NW-058 can be used as both a deicing and an anti-icing chemical.

Note 2: Borygo Runway SF/NW-058 is delivered ready to use. Under dry conditions Borygo Runway SF/NW-058 can be pre-wetted with the Borygo Runway KF fluid.

Note 3: Borygo Runway SF/NW-058 can be applied using all known conventional spreading equipment. The amount of Borygo Runway SF/NW-058 must be adjusted according to the weather and runway conditions.

Note 4: In the case of deicing, the surface should be treated mechanically before applying Borygo Runway SF/NW-058.

Note 5: Borygo Runway SF/NW-058 has been specially formulated to prevent caking & lumping.

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Packaging

Borygo Runway SF/NW-058 is available in 25kg, 500 kg, and 1000 kg bags.
For other packaging types please feel free to contact Boryszew's ERG Aerochemicals Dept.

MANUFACTURER: **Newave Aerochemicals for Boryszew S.A. Oddział Boryszew ERG in Sochaczew**
BUSINESS CONTACT: **+(48 46) 863 02 01**
aerochemicals@boryszewerg.com.pl
ADRESS: **15 Sierpnia 106, 96-500 Sochaczew, Poland**