

# **SLOPUR<sup>®</sup> CAR**

## **DE-ICING and ANTI-ICING**

### **IMMEDIATE EFFECT WITH PREVENTION**

**CHEMICAL COMPOSITION** Nontoxic liquid, composed by salts of acids, corrosion inhibitors and additives in the water.

**APPLICATION** SLOPUR<sup>®</sup> CAR approve as:  
 ♦ *film-creating* agent for protection of roads, cars, roofs, railcars, houses, materials, etc. before icing with de-icing effect.

**PROPERTIES** SLOPUR<sup>®</sup> CAR:  
 ♦ diluting by water;  
 ♦ **not contain phosphates, amines ,urea, nitrites and chlorides;**  
 ♦ safe for rubber, concrete, aluminum, colored metals, carbon steel, glass and plastic;  
 ♦ protect before icing and corrosion;  
 ♦ nontoxic, biodegradable liquid.

**CHARACTERISTICS** SLOPUR<sup>®</sup> CAR:  
 ♦ smell – weakly smell  
 ♦ pH 8-10  
 ♦ specific gravity [kg.m<sup>-3</sup>] 1040-1100

**TRANSPORT AND HOLDING** The way of transport depends of agreements and must harmonized with legislation. Storage in authentic, totally closed, intact covers. Warranted time is 24 months.

**SAFETY AND PROTECTION HEALTH AT WORKS** SLOPUR<sup>®</sup>CAR is nonflammable, nontoxic, ecologically clean liquid. After work is suitable wash hands with hot water and soap and trat with regenerative cream. If entry to eyes, clean with water and find medical treatment. After applied drink min. 0,5 l of water and find medical treatment.

**SYMBOLS** Xn Harmful

**RISK PHRASES (R - PHRASES)** R 22 Harmful if swallowed.

**SAFETY PHRASES (S - PHRASES)** S 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

#### **UTILIZATION**



**SLOPUR<sup>®</sup> CAR** applied in concentrated form to creation protecting film with thermal resistance **-35 °C**. For achievement maximum effect of anti-icing and de-icing is suitable apply before creation of icing.

To obtain maximum effectiveness of SLOPUR<sup>®</sup> CAR in ANTI-ICING, it is advisable to apply the product shortly before the expected freezing precipitation will occur. For the most economical use for DE-ICING, the aim should generally be to apply sufficient quantities just to penetrate the ice and the packed snow layers from the runway, turn into slush, and then remove with mechanical snow-clearing equipment.

## DOSING

CONDITION	TEMPERATURE		
	0 to -8°C	-8 to -18°C	-18 to -26°C
packed snow, ice	10-20 g/m <sup>2</sup>	20-30 g/m <sup>2</sup>	30-40 g/m <sup>2</sup>
snow, snowfall	20-35 g/m <sup>2</sup>	30-40 g/m <sup>2</sup>	40-50 g/m <sup>2</sup>
ice, freezing rain	35-40 g/m <sup>2</sup>	40-50 g/m <sup>2</sup>	50-65 g/m <sup>2</sup>

\* Real dosing depending on the weather situation the indicated application rates can be significantly different.

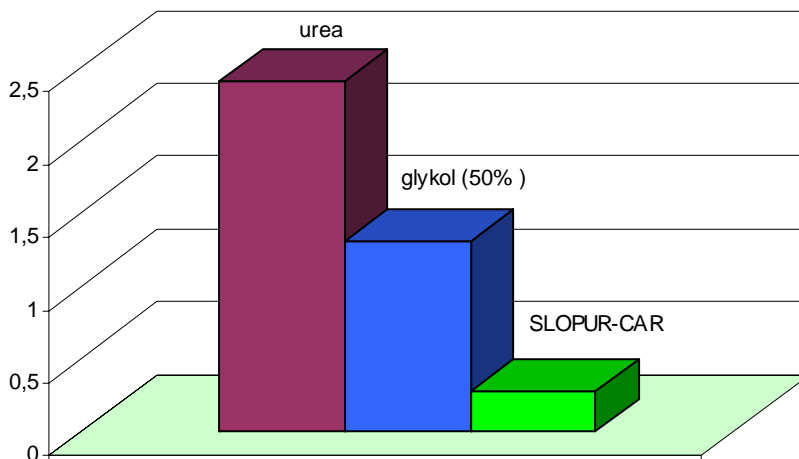


## ECOLOGY

Our De-/Anti-Icer was developed by SLOCHEM the basis of these fundamental principles:

1. efficiency of De-/Anti-Icer
2. biodegradability of the De-/Anti-Icer
3. with minimum COD and BOD
4. without content of nitrogen, chlorides and urea

### CHEMICAL OXYGEN DEMAND g O<sub>2</sub> / g

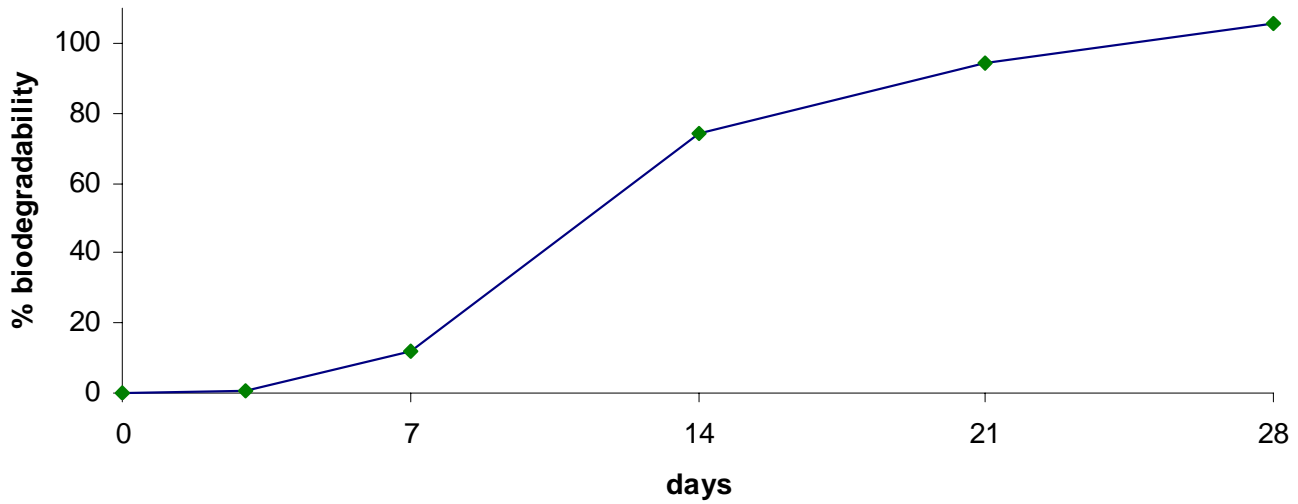


### SLOPUR -CAR

> COD = 0,2756 g / g O<sub>2</sub>  
chemical oxygen demand

> BOD = 0,122 g / g O<sub>2</sub>  
biological oxygen demand

## BIODEGRADABILITY



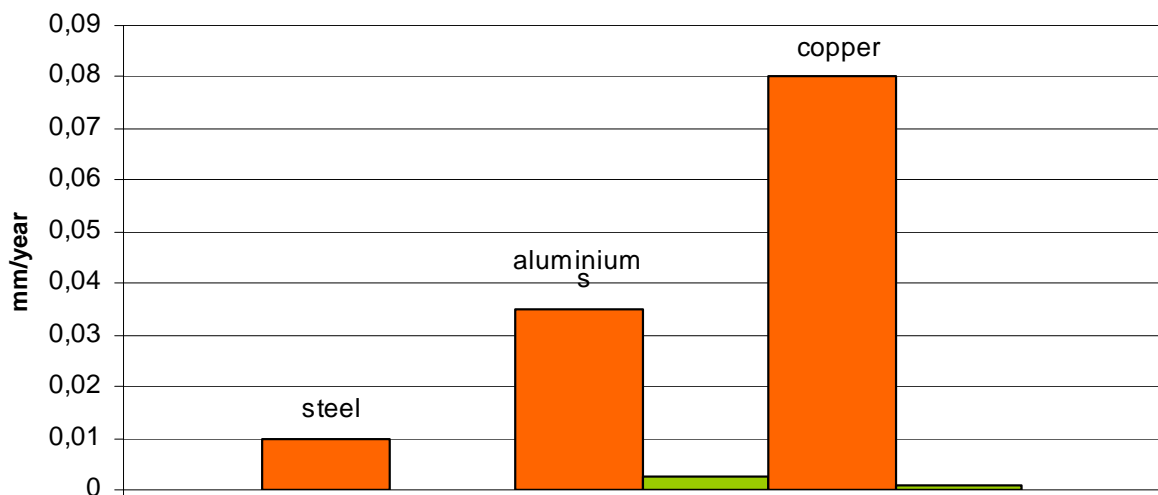
\* Information about biodegradability was elaborating according to STN EN ISO 107 07.

## EROSION

Erosion was testing at accredited laboratory according to STN 73 1326 and comparing with s 3% solution of NaCl.

	NaCl ( 3% solution )	SLOPUR-CAR
Degree of infraction	2	1
Quantity of waste	118,7 g/m <sup>2</sup>	0 g/m <sup>2</sup>

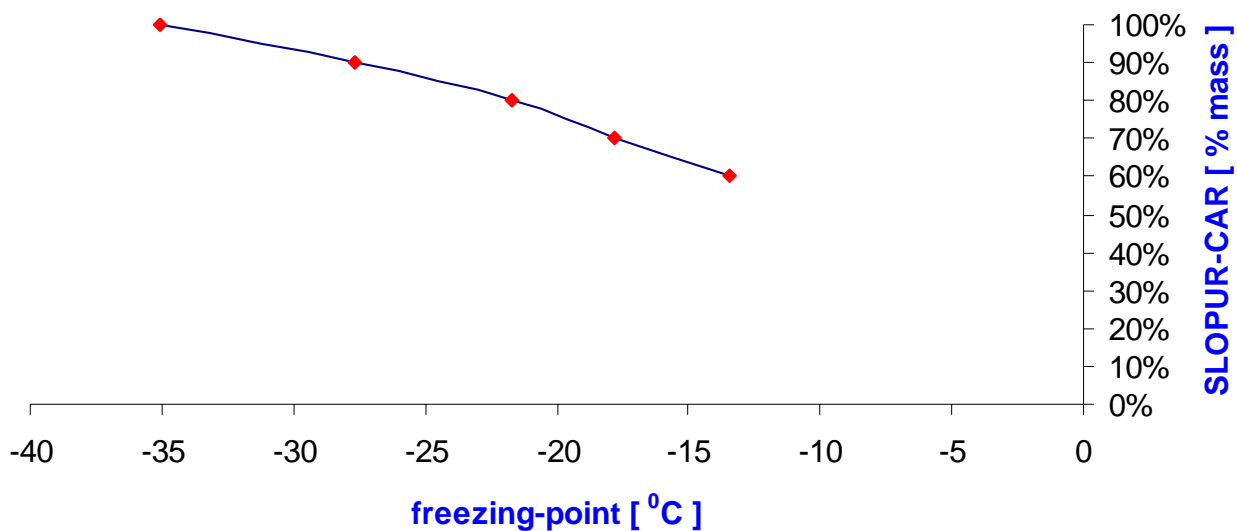
## COROSION SPEED



### COROSION SPEED (mm/rok)

	<i>steel</i>	<i>aluminium</i>	<i>copper</i>
<b>NaCl (5%)</b>	0,01	0,035	0,08
<b>SLOPUR-CAR</b>	0,00009	0,0025	0,00075

### EFFICIENCY



<b>SLOPUR-CAR [%mass]</b>	<b>addition water [%mass]</b>	<b>freezing-point [ °C ]</b>
100%	0%	-35,1
90%	10%	-27,7
80%	20%	-21,7
70%	30%	-17,8
60%	40%	-13,4

\* Freezing points are elaborated according to ASTM D 1177

\*\* Real freezing point depending on the weather situation and can be significantly different

\*\*\* With increasing dilution is miniaturizing speed of de-icing