

Міністерство
освіти і науки
України



Міністерство освіти і науки України

Національний університет біоресурсів і
природокористування України

Механіко-технологічний факультет

НДІ техніки і технологій

Кафедра транспортних технологій та засобів у АПК



Представництво Польської академії наук в Києві

Польська академія наук відділення в Любліні

Академія інженерних наук України

Українська асоціація аграрних інженерів



**ЗБІРНИК ТЕЗ
доповідей
III Міжнародної
науково-практичної конференції
«Автомобільний транспорт та інфраструктура»**



AutoTransport and Infrastructure

23-25 квітня 2020 року
м. Київ

УДК 656.13

ANTIFREEZE TOSOL-AM AND AVTOMOTIVE LIQUIDS TOSOL-A40M (A65M)

Kosarenko Oleksandra, student of Master's program

Titova Liudmyla, PhD

National University of Life and Environmental Sciences of Ukraine

titova@nubip.edu.ua

Low-freezing liquids TOSOL-A40M and TOSOL-A65M is an aqueous solution of ethylene glycol and its production water glycol flow of water to a mass fraction of 44%, containing anticorrosive and anti-foam additives.

For the production of low-freezing liquids TOSOL-A40M and TOSOL-A65M using distilled water. Technical characteristics of low-freezing liquids TOSOL-A40M and TOSOL-A65M and represented in Tabl. 1.

Low-freezing liquid TOSOL-A40M and TOSOL-A65M demonstrate high corrosion resistance on ferrous and nonferrous metals and compatibility with rubber, and a good ability to prevent the formation of foam. Low-freezing liquid TOSOL-A40M and TOSOL-A65M designed for cooling internal combustion engines of all types, as well as working fluid in the other heat exchangers that operate at low and moderate temperatures.

Table 1 – Specifications

Name indicator	TOSOL-A40M	TOSOL-A65M
Exterior view	Transparent homogeneous liquid without mechanical impurities, blue or blue-green	transparent homogeneous liquid without mechanical impurities, blue or blue-green.
Density kg/m ³ , no less	1075	one thousand and eighty-seven
Temperature onset of crystallization, °C, not higher	-40	-65
PH (pH)	7.5-11.0	7.5-11.0
Alkalinity, cm ³ , no less	10	10

Method to assess properties of freezing liquids. When measuring the composition of liquid media, the object of measurement is considered as a mixture of several components. When measuring the composition understand Setting proportion of a component in the mixture.

Methods for analysis of substances are divided into voting and integrated. Polling methods can selectively receive information about the amount of a particular component in the mixture. In integrated indiscriminate methods or results reflect a certain number of groups of substances in the mixture.

Optical methods and means of measurement, basically using the dependence of the optical properties of a test environment or passing through it electromagnetic radiation from the amount determined component in the analyzed sample. These properties include: refraction, polarization, intensity and glow paint, color and so on.

Despite the variety of properties used for measurement, all analyzers consist of three main components: the emitter, the sample cell and the receiver.

Optical analyzers can be monochromatic and non-monochromatic. Monochromatic uses radiation of a certain wavelength, and non-monochromatic - a stream of integral with a wide range of wavelengths of radiation.

Electrochemical methods of analysis based on the electrochemical properties analyzed depending on their composition environments. The magnitude measurement is voltage electrical potential, current, resistance, conductance, capacitance, permittivity, and others.

Exterior view. The appearance of the coolant is determined visually in the transmitted light in a test tube P2-19-150 HS or P1-16-150 HS according to GOST 25336 of colorless glass.

The coolant should be transparent, homogeneous and free of impurities. The color of the coolant and the method of its determination is set in the STD for a specific type of coolant.

Definition the onset of crystallization temperature. The method is that the test liquid is cooled and the temperature at which the naked eye can see the opacity as a sign of the onset of crystallization.

For the test, the coolant CL-K is diluted with distilled water in a volume ratio of 1:1. Working coolants TOSOL-A40M and TOSOL-A65M are tested without dilution.