

NASA TECH BRIEF

Manned Spacecraft Center

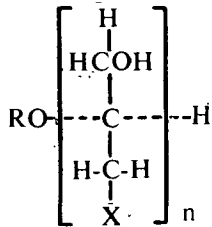


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Inexpensive Anti-Fog Coating for Windows

An inexpensive, easily applied coating prevents the formation of fog on plastic and glass viewing windows. Immediate applications include anti-fog protection for deep-sea diving equipment, fire protection helmets, and windows of vehicles used in hazardous environments.

The basic composition of the coating includes: a liquid detergent, deionized water, and an oxygen compatible fire-resistant oil. The detergent contains a mixture of sulfonated aliphatic mono- and poly-glycerol compounds of the general formula



where R is an alkyl radical and X is chlorine, hydroxyl or a water-soluble sulfonic acid salt radical. The silicone-based oil is a phosphate ester of the triaryl phosphate type, preferably a triaryl phosphate derived from reacting phosphorous compounds with cresylic acid. Other acids may be used, however, where flammability is not a consideration.

The coating is prepared from a composition of 35 parts commercial liquid detergent, 5 parts deionized water, and 4 parts silicone-based oil. The components are combined and agitated until the mixture

is completely emulsified. Two thin coatings are applied to the transparent surface and buffed lightly with a lint-free cloth. The composition has been used successfully to prevent fogging of visors under maximum metabolic load for 5 hours and longer.

Note:

Requests for further information may be directed to:

Technology Utilization Officer
Manned Spacecraft Center, Code JM7
Houston, Texas 77058
Reference: TSP71-10149

Patent status:

This invention is owned by NASA, and a patent application has been filed. Royalty-free nonexclusive licenses for its commercial use will be granted by NASA. Inquiries concerning license rights should be made to:

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Category 04