



Return address: P.O. box 6235, 5600 HE Eindhoven, The Netherlands

Flame Guard BV
Attn. F.H.J. Vogelzangs
PO. Box 6572
6503 GB Nijmegen



De Rondom 1
P.O. Box 6235
5600 HE Eindhoven
The Netherlands

www.tno.nl

T +31 40 265 00 00
F +31 40 265 03 01
Info@ind.tno.nl

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Our reference

E-mail
jan.maat@tno.nl

Direct dialling
+31 402650601

Subject

Health and environmental declaration of the DSPA Extinguishing Systems

The Standard Conditions for
Research Instructions given to TNO,
as filed at the Registry of the
District Court and the Chamber of
Commerce in The Hague
shall apply to all instructions given to TNO;
the Standard Conditions will be sent on
request.

Introduction:

The Netherlands Organisation for Applied Scientific Research, TNO, is asked by Flame Guard to investigate the health and environmental aspects of the DSPA's.

The investigation is carried out on the following subjects:

- a. Compound of the aerosol forming product
- b. Gases after discharge
- c. Aerosol particles / Fine Dust after discharge

Results:

Till now, the first results are reported as a draft, since the original report is still to be completed.

Results are regarding:

A. Compound

The aerosol forming compound of the DSPA consists mainly on inorganic potassium salts.

Based on literature and research the individual components were checked on there toxicity and hygienic effect and on the behaviour for Safety and Risk sentences.

We can conclude that the aerosol forming components are not to be considered as toxic or irritating. Furthermore the residue are not to be considered as a hazardous waste product and can be disposed without specific pre measurements.

B. Gases

Analysis of the gases that appear after discharging the DSPA showed that the most dangerous components that are found after emission are Nitrogen and Carbon oxides

As conclusion could be found that the concentration of these gases are below the acute risk for human beings.



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C. Aerosol Particles / Fine Dust

After activation the emitted components are mainly potassium salts.

These are not dangerous for human life and animals.

Since Fine Dust is nowadays a popular item, new legislation could be developed in future.

That is why some extra tests are done to research the respirable chemicals.

At this moment the test results indicate that no toxic products are found.

To be prepared for the future it could be a recommendation that in the rooms where DSPA Systems are installed, also breath protection caps could be placed to. Tests done to check if these caps would reduce the amount of inhaled fine dust where positive.

End conclusion

Generally we can conclude that the products are non toxic, are not to be considered as a hazardous waste product and that on application of DSPA's the level of the discharged products are below the risk for human beings.

TNO Science and Industry,

Jan Maat, B.Sc.
Manager Chemical/Physical Evaluation