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## SulphCatch BV

SulphCatch BV is a spin-out company of ECN and was founded mid 2004. SulphCatch exclusively commercialises the technology that has been developed by ECN for removal of organic sulphur components from fuel gases. The SulphCatch Technology is protected by internationally filed patents.



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## Applications of SulphCatch

### Products

Sulphur removal is required for all applications that contain catalytic systems which are sensitive to sulphur.

Both low temperature as well as high temperature fuel cells are susceptible to sulphur poisoning. Also emission control systems for gas engines can suffer from sulphur poisoning. The tolerance level can be as low as 20-50 ppb S.

Natural gas and LPG are odorised by means of addition of organic sulphur compounds.

For many systems, removal of these odorants at ambient conditions is to be preferred.

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## Which Sulphur compounds can be removed?

SulphCatch Natural Gas Desulphurisation Material (NGDM) has been developed in particular for the removal of TetraHydroThiophene, THT. THT is widely used throughout Europe, parts of Japan and other parts of the world as the odorant for natural gas and sometimes also for LPG.

Other thiophenes are removed as well by NGDM. The capacity for mercaptans however is low in comparison to e.g. activated carbons. Inorganic sulphur compounds such as  $H_2S$  and  $COS$  are not removed.

The caloric value of natural gas is not affected.

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## How should SulphCatch NGDM be used

SulphCatch Natural Gas Desulphurisation Material (NGDM) has to be used just before the natural gas enters the combustion or fuel cell installation. The sulphur removal capacity is largest at low temperatures, preferably at 20 °C or lower. At a temperature of 40 °C, the SulphCatch technology is still competitive in comparison with other materials.

SulphCatch NGDM can be applied at atmospheric as well as elevated pressures.

One of the major benefits of SulphCatch NGDM is that the material needs no pretreatment, and that no health and safety precautions are needed when installing the material.

Although the material itself is harmless, saturated material should be disposed as chemical waste.

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## SulphCatch BV

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## Field Trials

The SulphCatch Material has been tested for more than 2 years both at ECN as well as at several industrial clients. The largest installation so far has been a natural gas fuel processor for a 150 kWe fuel cell system. In this unit, more than 60,000 m<sup>3</sup> of natural gas was desulphurised with 60 liters of SulphCatch NGDM-1. Other field trials for application outside the fuel cell area are in preparation.

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## Sales

SulphCatch desulphurisation material can be purchased in quantities ranging from 1 kg - 1000 kg. Particles as well as extrudates are available.

A quotation is made upon request. The delivery time is 1 week for quantities up to 50 kg.



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## Other Services

In cooperation with ECN, SulphCatch offers additional services in the field of sulphur removal on a contractual basis. These services range from the determination of the composition of fuel gas to be desulphurised up to the complete design of a desulphurisation unit. SulphCatch can assist with the selection of filter housing manufacturers.

