

# HALEX<sup>®</sup>

Reagent for Dehalogenation

**Dehalogenation by Nano Technology**



**Dr. Bilger Umweltconsulting GmbH**

# HALEX<sup>®</sup>

## Reagent for the quantitative decontamination of halogenated gases and N<sub>2</sub>O

HALEX<sup>®</sup> is a matter of an inorganic supporter (ceramic), covered with sodium. Due to a special coating technology HALEX<sup>®</sup> is able to transform inorganic and organic halogenated compounds as well as N<sub>2</sub>O totally into nonhazardous substances.

The newly formed products as example Sodium Fluoride can be used partially as secondary raw materials.

### Advantages of HALEX<sup>®</sup>:

- All known halogenated compounds are been destroyed
- No formation of Dioxins, Furans or NO<sub>x</sub>
- No downstream neutralization required
- No formation of exhaust gases
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### Application areas of HALEX<sup>®</sup>:

- Decontamination of etch gases in the semiconductor industry

CF <sub>4</sub>	C <sub>2</sub> F <sub>6</sub>	NF <sub>3</sub>	SF <sub>6</sub>
CCl <sub>4</sub>	CHF <sub>3</sub>	N <sub>2</sub> O	

- Decontamination of transformer gases in electrical industry
- Drying and refinement of gases

### Required amounts of HALEX<sup>®</sup> for the decontamination of 1 mol gas:

1 Mol	HALEX <sup>®</sup> (g)
• CF <sub>4</sub>	460
• SF <sub>6</sub>	689
• C <sub>2</sub> F <sub>6</sub>	689
• NF <sub>3</sub>	345
• CCl <sub>4</sub>	460
• CHF <sub>3</sub>	460
• N <sub>2</sub> O	230

## **HALEX® for the destroying of low concentrated PCB in transformer oils**

HALEX® shows its efficacy not only at gaseous compounds. Investigations in the labs of Dr. Bilger Umweltconsulting could prove that HALEX® can also destroy chlorinated compounds in an oily matrix. Because PCB is about such a substance class an additional important application for HALEX® will result. But only small concentrations of PCB (< 2 ppm) can be treated. However even the lowering of such minimal concentrations is interesting for some Asiatic countries with a critical value for PCB of < 2 ppm. In these countries large amounts of transformer oils with a PCB amount between 0.5 and 2 ppm are on hand and so the using of HALEX® can make sense.



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