

# VANADIUM CHLORIDES

## MSSA (Métaux Spéciaux)

is a French company using its own Chlorine to produce Vanadium Chlorides through a Carbochlorination of  $V_2O_5$ .



### QUALITY

- Stability and long shelf lifetime.
- Able to connect all standard fittings (US, Asian and European fittings).
- Approved catalyst for SCLAIRTECH process in Asian, US and European countries.



**Worldwide**  
DELIVERIES



**300 t**  
PRODUCTION/YEAR

## Main applications

- ETHYLENE PROPYLENE DIENE MONOMER (EPDM) CATALYST
- POLYETHYLENE (PE) CATALYST



Contact support  
Vanadium chlorides

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## Technical quality $\text{VOCl}_3$

	SPECIFICATIONS	TYPICAL
<b>VOCl<sub>3</sub></b>	99,8 % min	99.9% max
<b>V (IV)</b>	≤ 300 ppm	≤ 200 ppm
<b>Free Chlorine</b>	<100 ppm	≤ 50 ppm
<b>Fe</b>	< 100 ppm	<20 ppm
<b>Si</b>	< 100 ppm	< 20 ppm
<b>Gardner index</b>	<8	7

$\text{VCl}_3$	$\text{VCl}_4$	$\text{VOCl}_3/\text{TiCl}_4$
<b>CAS</b> 7718-98-1	<b>CAS</b> 7632-51-1	<b>CAS</b> 7550-45-0
<b>UN</b> 2475	<b>UN</b> 2444	<b>UN</b> 3390
<b>Class</b> 8	<b>Class</b> 8	<b>Class</b> 6.1(8)
<b>PG</b> III	<b>PG</b> I	<b>PG</b> II

## Technical quality $\text{VCl}_4$

	SPECIFICATIONS	TYPICAL
<b>VCl<sub>4</sub></b>	98 % min	99.5% max
<b>VOCl<sub>3</sub></b>	< 1%	< 0,5%
<b>V5+</b>	< 0,3%	<0,25%
<b>Free Chlorine</b>	<500 ppm	≤ 100 ppm
<b>IRON</b>	< 100 ppm	< 20 ppm

## Technical quality $\text{VCl}_3$

	SPECIFICATIONS	TYPICAL
<b>(V)</b>	32 ± 0,5%	32%
<b>(Cl-)</b>	67 ± 1%	67%
<b>Insoluble H<sub>2</sub>O</b>	0,25 ± 0,25%	0,15%
<b>Fe</b>	0,03 ± 0,03%	0,03%

## Technical Quality mixtures ( $\text{VOCl}_3 / \text{TiCl}_4$ )

CAB Catalyst: 80%  $\text{VOCl}_3$  - 20%  $\text{TiCl}_4$

CAB-2 Catalyst: 50%  $\text{VOCl}_3$  - 50%  $\text{TiCl}_4$

CAB-3 Catalyst: 65%  $\text{VOCl}_3$  - 35%  $\text{TiCl}_4$



## Packaging and deliveries

### FLEET OF 80 TANKS

800 to 2500 liters capacity  
(Operating pressure up to  
15 bar - 215 psi)

### SPECIAL PACKAGING

Upon request

### APPROVED FOR

IMO & USDOT, IATA, RID, ADR



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