


Revised edition no :5	<b>SAFETY DATA SHEET</b> ACCORDING TO REGULATION 1907/2006	 Perm
Date : 08.10.2019	<b>TETRAFLUOROMETHANE</b>	

## 1. IDENTIFICATION OF THE SUBSTANCE/COMPOUND AND COMPANY

<b>1.1. Product identifier</b>	
Name:	Tetrafluoromethane (Refrigerant-14)
Chemical name	Tetrafluoromethane
Synonyms:	Refrigerant-14, carbon tetrafluoride, Freon-14, R-14, metforane, perfluoromethane, refrigerant gas R-14
Chemical formula:	CF <sub>4</sub>
Molecular weight:	88,005
EC number	200-896-5 (EINECS)
REACH Pre-Registration №	Reference number 05-2114096911-42-0000
C&L bulk notification	Reference number 02-2119708818-29-0000
CAS number	75-73-0
<b>1.2 Relevant identified uses of the substance or mixture, and uses advised against</b>	Applied as refrigerant for the production of ultralow temperatures -120 ÷ -150 °C (-180 ÷ -240 °F), as stabilizer of nitrogen decomposition and flame inhibitor /3/.
1.2.1 Identified uses	Applied as reagent for dry etching by producing of integrated circuit, as thinner by carrying out chemical reactions, as reagent for the production of fluorine organic products/3/.
1.2.2 Uses advised against	unknown
<b>1.3 Details of the supplier of the safety data sheet</b>	
Manufacturer	Joint Stock Company «HaloPolymer Perm» 614042, Russia, Perm, ul. Lasvinskaya 98 Phone № +7(342) 250-61-50 <a href="http://www.halopolymer.ru">www.halopolymer.ru</a>
Only REACH representative in EU:	JSC «HaloPolymer Perm» (Submitting legal entity URALCHEM Assist GmbH) Johannssenstrasse 10 30159, Hannover, Germany Tel: +49 511 45 99 444
<b>1.4 Emergency telephone:</b> Great Britain USA	+7-342-282-85-45 (24 hours) +44 (0) 203 394 9870 (24/7) 1-877 271 7077

## 2. HAZARDS IDENTIFICATION

<b>2.1 Classification of the substance</b>	
2.1.1 Regulation (EC) No 1272/2008 [CLP/GHS]	Liquefied gas, H280
2.1.2. Directive 67/548/EEC	unknown
<b>2.2 Label elements</b>	Hazard pictograms
2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP/GHS]	 GHS04 Signal word: <b>Warning</b> Hazard statements: H280 (Contains gas under pressure; may explode if heated) . Precautionary statements: P 403 Store in a well-ventilated place.

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	P 410 Protect from sunlight.
<b>2.3 Supplemental Hazard information (EU):</b>	<p>Tetrafluoromethane is a colourless, odorless, non-inflammable, non-explosive, compressed gas. Biological inert and low toxic. At high concentration Refrigerant-125 causes asphyxia because of displacement of oxygen (i.e. reduction of oxygen content in the air of a closed space), therefore exposure to high concentration of this gas may lead to oxygen starvation and be fatal. Symptoms of oxygen starvation include headaches, ringing in ears, sleepiness, giddiness, loss of consciousness, nausea, vomiting and depression. There are the following symptoms at low concentration of oxygen in the air:</p> <ul style="list-style-type: none"> <li>-by 12% - 16% of oxygen: breathing and pulse increase; muscles coordination of movements is slightly disturbed;</li> <li>-by 10% - 14 % of oxygen: emotional insanity, tiredness, breathlessness</li> <li>-by 6% - 10% of oxygen: nausea, vomiting, collapse or loss of consciousness</li> <li>-&lt; 6% of oxygen: convulsive movement, possibly respiratory standstill or death.</li> </ul> <p>The liquefied gas causes frostbite; the factors include the changing of skin's colour to white or grey-yellow. After that contact the pain is quick calming down. The most effected organs and systems: respiratory, cardiovascular and central nervous system, morphological content of peripheral blood, eyes, skin. People who have some diseases of cardiovascular and central nervous system may have the high susceptibility to exposure to tetrafluoromethane, therefore they are not recommended to work or deal with this product.</p> <p>Tetrafluoromethane is a greenhouse gas. Global warming potential concerning fluortrichlormethane (HGWP) – 6; concerning carbon dioxide (GWP) – 6300 (6500).</p>

### 3. COPPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Composition

Identification name	№ CAS	EU (ELINECS/EINECS)	Volume concentration, %
Tetrafluoromethane	75-73-0	200-896-5 (EINECS)	no less than 99,2

### 4. FIRST AID MEASURE

THE STATED BELOW FIRST AID BASES ON SUPPOSED ADHERENCES TO ALL REGULATIONS OF THE PRODUCTION AND PERSONAL HYGIENE.

PERSONS WHO GIVE FIRST AID TO VICTIMS MUST USE MEANS OF PERSONAL PROTECTION.

WHEN REFERED A AFFECTED PERSON TO MEDICAL ASSISTANCE, FORWARD WITH THEM A COPY OF LABEL OR SDS OF TETRAFLUOROMETHANE

Inhalation:	<p><u>Symptoms:</u> dimness of consciousness, giddiness, headache</p> <p><u>First aid:</u> fresh air, rest. The most important measure is prompt to remove affected person from the immediate area. If the breathing is absent, the skilled person must use the apparatus of artificial respiration; by the heavy breathing - oxygen.</p> <p>Seek medical advice immediately.</p>
Eyes contact:	<p><u>Symptoms:</u> irritation</p> <p><u>First aid:</u> Wash with plenty of water (15 min); take off lenses if it is not</p>

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	difficult. When washed open eyelids of the affected person. In case of mechanical eye injury cover with bandage. Seek medical advice immediately
Skin contact:	<u>Symptoms:</u> frostbite, the factors include the changing of skin's colour to white or grey-yellow. <u>First aid:</u> by frostbite rinse with plenty of warm water T = 41±46°C (105 – 115°F). Do not use hot water. If warm water is not available, wrap the affected areas with blanket. Seek medical advice immediately.

## 5. FIRE-FIGHTING MEASURES

<b>5.1.General characteristic of fire and explosion risk</b>	Fire- and explosion-proof. It affects flame of other substances such as carbon dioxide (CAS № 124-38-9) and nitrogen (CAS № 7727-37-9), but with great efficiency
<b>5.2.Fire-fight measures</b>	Cool off the containers filled with tetrafluoromethane by means of sprayed water if they are located in the fire zone. Use dry extinguishing means for main source of ignition. The following means can be used: dry powder, carbon dioxide, foam, halon, water sprayed yet. The staying of tetrafluoromethane containers in the fire zone can cause their rupture (as they are pressurized). Therefore it is reasonable to remove containers from the areas near source of ignition, if it is safety for fire-fighters. Otherwise if the vessels with the product change their color as a result of fire, keep a safe distance, 800 m (1/2 mile). The fire-fighting must be carried out from the cover. Fire-fighters must lie to the windward side, away from lo areas.
<b>5.3.Special exposure hazards arising from the substance or preparation, combustion products, resulting gas</b>	Tetrafluoromethane is a non-flammable gas, but there are some hazard for fire-fighters, because when exposed to high temperatures it can produce following hazardous decomposition products: anhydrous hydrogen fluoride HF (CAS 7664-39-3); carbon oxide CO (CAS 630-08-0); fluoric carbonyl COF <sub>2</sub> (CAS 353-50-4); perfluorisobutylene C <sub>4</sub> F <sub>8</sub> Smoke, contained anhydrous hydrogen fluoride is toxic and, when inhaled, it can badly affect human organisms. Tetrafluoromethane does not flame, but the containers staying at the zone of fire may explode.
<b>5.4.Special protective measures for fire-fighters</b>	Fire-fighters must have self-contained breathing apparatus (SCBA) and complete protective clothing for skin, eyes, respiratory protection against contact with HF and other toxic smokes. After exiting from the zone of fire fire-fighters must take a shower. Equipments and engines must be decontaminated as well.

## 6. ACCIDENTAL RELEASE MEASURES

<b>6.1.Personal precautions</b>	If the uncontrolled discharge of the product occurs, all liquidation actions must be carried out by skilled personnel using the advance planned procedures. The personnel must use proper protective means: gloves and self-contained breathing apparatus (SCBA). By accidental release of tetrafluoromethane all personnel who does not participate in liquidation must be evacuated from the adverse area to safety place (upwind). Stop releasing; if it is not possible, release gas on the spot and provide good ventilation, or transfer the vessel to the save ventilated place and release there. Isolate the area till gas disperses. Check the oxygen content of working place before entrancing (no less than 19,5%, volume concentration), as the high concentration of tetrafluoromethane in the air causes asphyxia, that leads to loss of consciousness and death. Do not use the product near the open fire or heat surface, and at welding works. Leak must be turned up to allow gas, rather than liquid to escape.
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<b>6.2.Environment precautions</b>	Try to stop leaking. Ensure actions which prevent the discharge of the product into drains, basements, water or other places, where its build-up could be dangerous.
<b>6.3.Methods of cleaning up</b>	Provide good ventilation, especially in the low places, where the gas could accumulate.

## 7. HANDLING AND STORAGE

	General recommendations: Avoid contacting the substance. Do not eat at the work place. Be familiarizing with adverse effects on human organism and with lack of evident symptoms.
<b>7.1.Transportation</b>	Tetrafluoromethane is transported by each kind of transport (road, sea, rail) according to the Regulations of goods transportation, which are valid for the specific kind of transportation and with Regulations of technology and exploitation of pressure vessels”
<b>7.2.Storage</b>	Tetrafluoromethane must be stored under a shelter, or in indoor storage rooms, away from heaters. Avoid exposing to the direct sun. The cylinders with the product must be kept upright and protected against heating. The storage with other explosive and inflammable substances, acids, alkalis is not acceptable. The product must be stored in tightly closed package. Protect the package against the physical damage. The temperature in the storage room is not to exceed 520 °C (1250 °F). Cylinders must be safety fastened to prevent falling. If the package with the product is stored outside, the package must be protected against extreme weather conditions and against the dampness to prevent the package corrosion.





## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Exposure limit values

	Recommendations on the profession effect	
	CIS	USA
	PDK	TWA
	3000 mg/m <sup>3</sup>	3600 mg/m <sup>3</sup>
	PDK - maximum permissible concentration of harmful substances in the air of working area.	

TWA – weight average in time permissible concentration of harmful substances in the air of the working area, recommended by American Conference of Governmental Industrial Hygienists (ACGIH)

### 8.2.Exposure control /2,3/

<b>8.2.1.Control of profession effect (MPC of working area)</b>	Carry out all works with tetrafluoromethane only in well ventilated rooms. Technical facilities must be equipped with the local exhaust ventilation or other technique for supporting of MPC. The automatic control of the oxygen level at the working area if necessary (none less 19,5 %)
<b>Personnel protection: Protection of the respiratory organs</b>	 Follow the requirements 29 CFR 1910.134 (USA), Z94.4-93 (Canada), European standards EN166, EN141, EN143 for protection of the respiratory organs. Use self-contained breathing apparatus (SCBA) for the personal protection in case of the large leaking.
<b>Eye protection</b>	 Follow the requirements 29 CFR 1910.133 (USA), European standards EN166 for protection of eyes.
<b>Skin protection</b>	 Personal clothing must meet assigned tasks, possible risks and must be proven by specialists before the working with the product.
<b>Hand protection</b>	 Wear protective gloves by working with chemical products anytime, if the risk estimate shows that it is necessary. Use gloves or gauntlets according to European standards EN407, EN 388.
<b>8.2.2. Control of environment effect</b>	Control of the product content in the air. To avoid releasing the product in the atmosphere, the air of the working area must be cleaned and turned for

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dispersion in the atmosphere. Wastewater of the production process is cleaned according to technical regulation.

9. PHYSICAL AND CHEMICAL PROPERTIES	
<b>9.1 General information:</b>	
Appearance Odour	Colourless gas Faint odor of tetrafluoromethane
<b>9.2. Essential information on health and environment safety</b> pH Boiling point Burning point Inflammability (solid, gas) Explosive risk Oxidability Vapour pressure  Specific gravity (relative density) Solubility  Distribution coefficient n-octanol/water Viscosity Evaporation rate	pH of Water solution - neutral -128,0°C (-198,4°F) Non-inflammable gas Flame-proof (temperature of self-inflammability >1100°C) Explosive-proof stable until 910C <sup>0</sup> (1670°F) 3,294 MPa (T=-50°C (-60°F)  3,624 kg/m <sup>3</sup> (T=20°C (68°F) 3,04 density by air mass concentration 0,119% in CCl <sub>4</sub> (P=0,101 MPa, T=25°C (77°F) mass concentration 0,0021% (P=0,101 MPa, T=20°C (68°F) unknown  dynamical 18,8 mkPa · c (T=-50°C (-60°F) unknown
<b>9.3. Other information</b> Melting point Evaporation heat	-183,6°C (-300°F) 136kJ/kg Remember that tetrafluoromethane is heavier than air (ability to accommodate in the closed space) does not have odor (no factors of the leaking) and pay special attention to the leaking banning, and the prompt discovery of the leaking.
10. STABILITY AND REACTIVITY	
<b>10.1. Conditions to avoided</b>	Stable at the normal condition. Avoid the open fire and high temperatures (tetrafluoromethane decomposes and produces toxic products, vessels contained the product may explode) and contacting incompatible materials.
<b>10.2. Materials to avoid</b>	Aluminum, carbon dioxide higher than 1000°C (1832°F), aluminum alloy more 2 % with water presence. Silver and copper alloys can act as decomposition catalyst of tetrafluoromethane at high temperature. Alkaline, alkali-earth metals, aluminum, zinc, beryllium and others. Inflammable and explosive substances, acids, alkali
<b>10.3. Hazardous decomposition products</b>	By contact with the flame or heated surfaces (T>1000°C) it decomposes and produces toxic products: -anhydrous hydrogen fluoride HF (CAS 7664-39-3); -carbon oxide CO (CAS 630-08-0); -fluoric carbonyl COF <sub>2</sub> (CAS 353-50-4); -perfluorisobutylene C <sub>4</sub> F <sub>8</sub>
11. TOXICOLOGICAL INFORMATION	
<b>11.1. Risk level estimation of effect on organism</b>	Tetrafluoromethane is moderate toxic by inhaling; causes a slight irritation if contacted skin twice; has a slight accumulation. Heavier than air; accumulating in a room it can cause hypoxia. In accordance with the toxic classification (CH, Switzerland) it belongs to class 5 (slightly toxic substance)
<b>11.2. Toxicokinetics, metabolism and diffusion:</b>	Do not transform in the course of the metabolism


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<b>11.3. Sharp effect (sharp toxic, irritant action, corrosive action):</b>	<b>CL, mg/m<sup>3</sup></b>	<b>Exposure time, h</b>	<b>Kind of animal</b>
	CL <sub>0</sub> 742000	2	rats
	CL <sub>min</sub> 3276578	0,25	rats
	CL <sub>100</sub> 1000000	2	rats
	LCL <sub>0</sub> 890000	0,25	rats
<b>11.3.1. Exposure ways</b> <b>Inhalation</b>  <b>Eye contact, skin contact</b> <b>Organism penetration</b>	Excitation, changed into sleepiness, flaccidity; hypodynamia, respiratory rhythm changing, clonic convulsion The quick evaporation from the skin surface can cause frostbite. Unlikely		
<b>11.4. Toxicity by the second dose</b>	Accumulation is faint		
<b>11.5. Sensibilisation:</b>	Not studied		
<b>11.6. Carcinogenicity</b>	Tetrafluoromethane is not mentioned in the following lists (documents): FEDERAL OSHA Z LIST, IARC, NTP, CAL/OSHA, therefore it is not considered as a carcinogenic agent.		
<b>11.7. Mutagenicity</b>	Considerable effects and critical risks are unknown		
<b>11.8. Toxicity for reproductive function</b>	Considerable effects and critical risks are unknown		
<b>12. ECOLOGICAL INFORMATION</b>			
<b>12.1. Ecotoxicity</b>	MPC of atmosphere max.single =100mg/m <sup>3</sup> , average daily 20 mg/m <sup>3</sup> . Class of risk is 4 (low-hazardous) According to the classification of water pollution risk (WGK, Germany) tetrafluoromethane is classified as class 0 (in general not dangerous for the water pollution). The sharp toxicity for fishes CL <sub>50</sub> (mg/l): unknown The toxicity for water-plants (in culture): unknown MPC water, MPC soil = not determined, Nowadays there is no proofs of effects on over-water flora and fauna, and no proofs of ecological damage.		
<b>12.2. Mobility</b>	The gas disperses very fast in the well ventilated room.		
<b>12.3. Stability and decomposition ability (degradation)</b>	The substance is very stable in abiotic conditions.		
<b>12.4. Ability to bioaccumulation:</b>			
<b>12.5. Results of RVT estimation:</b>			
<b>12.6. Other adverse effects:</b>	Global warming potential concerning fluortrichlormethane (HGWP) –6; Global warming potential concerning carbon dioxide (GWP) – 6300 (6500). Tetrafluoromethane as a greenhouse gas is the part of the Kyoto Protocol. The potential of ozone depletion concerning fluortrichlormethane (HGWP) – 0. The Kyoto Protocol does not include tetrafluoromethane. Adverse effects on animals are expressed as an adverse effect on the cardiovascular system because of scarcity of oxygen. Symptoms are similar to the described symptoms for human. The negative effect on plants is frostbite under quick- expanding gases.		
<b>13. DISPOSAL CONSIDERATIONS</b>			
<b>13.1. Product</b>	All kinds of working with the product are carried out in the well ventilated room using the personal protection equipment, away from the open flame and welding working.		
<b>13.2. Packaging</b>	Cylinders are a multiway package. Defective vessels bar from the exploitation, must be repaired or remove as metal scrap. Cylinders must be tested periodically.		

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Normative local, region, state and national requirements, concerning the disposal consideration, can be more or less strict. Information on the utilization you can receive from your legal counsel or official representatives.

#### 14. TRANSPORT INFORMATION

<b>14.1.Land transport:</b> Transport name Class of hazard ADR/RID: Labelling ADR/RID:  UN number: Code of hazard Class GGVE/GGVS Class DOT (USA)/ TDG (Canada): DOT name	Tetrafluoromethane (refrigerant gas R-14) 2  2    1982 20 (damp or gas, which does not have additional hazard) 2/1a 2.2. (non-flammable gas) Tetrafluoromethane, compressed
<b>14.2.Sea transport:</b> Transport name:	Tetrafluoromethane, compressed
Alternative transport name: Class of hazard IMO UN number: IMDG code Sea polluter	Refrigerated gas R-14, compressed 2.2 (non-flammable gas) 1982 Page 2182 IMO for a sea polluter is not be marked
<b>14.3.Air transport:</b> Transport name: Alternative transport name: Class of hazard ICAO/IATA: UN number: ERG code:	Tetrafluoromethane, compressed Refrigerated gas R-14, compressed 2.2 (non-flammable gas)  1982 2A
The data of this section are only for information purpose. For the correct transport classification of the cargo, please use the relevant regulations.	
<h4>15. REGULATORY INFORMATION</h4>	
<b>15.1 Chemical description:</b>	<u><b>Tetrafluoromethane</b></u>
Montreal Protocol on Substance that deplete the Ozone Layer approved by the government of U.S.S.R. in November 1988 The Kyoto Protocol to the United Nations Framework Convention on Climate Change (ratified by the Federal law RF from 04.11.2004 № 128-F3: the Administrative Regulations on the Classification of Substances hazardous to Waters (Germany, 17.05.99)	Tetrafluoromethane does not belong to the substance that deplete the ozone layer  Regulated as a greenhouse gas According to the Classification of Water Hazard Classes (WGK, Germany), tetrafluoromethane is concerned as a substance of class 0 (in general not dangerous to water)
The Legislation of Russian Federation:	The Regulations of RF "About the Protection of Consumer", "About Environment Protection", " About the Sanitation and Epidemiological Control", "About the Technical Regulation"

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16. OTHER INFORMATION	
<b>16.1 R phrases</b>	
<b>S phrases (information from the company)</b>	S3 – keep in cool places S4 – keep away from inhabited area S7 – keep the package filled with the product tightly closed
<b>16.2 The classification of the National Fire Protection Association (NFPA)</b>	Health: 1 Flammability: 0 Reactivity: 0 Special hazards: n/a
<b>16.3 The classification of German Chemical Industrial Federation</b>	2a – compressed, liquefied or dissolved under pressure gases
<b>16.4 Class according to the Toxicological classification of Switzerland</b>	5 – low toxic
<b>16.5 Advisable restriction of usage</b>	Only for industrial usage
<b>16.6 Reference sources</b>	1 International Chemical Safety Card ICSC: 0575, 1997 r. 2 Material safety data sheet 2.1 AIRGAS INC, USA , 1998 r. 2.2 AIRGAS INC, USA , 2007 r. 2.3 AIR LIQUIDE SA, France, 2005 r. 2.4 MESA Specialty Gases @ Equipment , USA , 1998 r. 2.5 MATHESON TRI-GAS, INC, USA , 1998 r. 2.6 DUPONT, USA , 1997 r. 2.7 SPECTRA GASES, INC, USA , 2001 r. 2.8 LINDE GAS INC, USA , 1995 r. 3 Data of the company.



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ANNEX  
Exposure Scenario

<b>Information item</b>	<b>Proposed ES1</b>
<b>Product Identification</b>	
<b>Product name as it appears on SDS</b>	Carbon tetrafluoride
<b>Short title exposure scenario</b>	
<b>Internal name</b>	Carbon tetrafluoride
<b>Sector(s) of Use (SU)</b>	SU 3 Industrial Manufacturing (all) SU 16 Manufacture of computer, electronic and optical products, electrical equipment
<b>Process Category(ies) (PROC)</b>	PROC 2 Use in closed, continuous PROC ess with occasional controlled exposure (e.g. sampling), Industrial setting;
<b>Product OR Article category</b>	
<b>Product Category(ies). (PC)</b>	PC_16_n PC 16 Heat Transfer Fluids
<b>Article Category(ies). (AC)</b>	AC_Not_Applicable
<b>Environmental Release Category(ies) (ERC)</b>	ERC7 Industrial use of substances in closed systems
<b>Processes and activities</b>	
<b>Life Cycle Stage</b>	Use
<b>Optional: Provide additional information on processes and activities if needed</b>	Liquefied gas                      Incombustible
<b>Max. process temperature.</b>	1200
<b>Human health - Workers</b>	
<b>Type of use</b>	Industrial
<b>Physical form under conditions of use</b>	Gas
<b>Dustiness category for solid substances.</b>	
<b>Max. duration of inhalatory exposure.</b>	> 4 hours
<b>Outdoor or indoor operation and application of Local Exhaust Ventilation (LEV)</b>	Indoor with LEV
<b>Use of respiratory protection equipment (RPE).</b>	>95%
<b>Use of dermal protective clothes and gloves.</b>	Yes
<b>Dilution factor of the product.</b>	1
<b>Consumer exposure</b>	
<b>Product Sub-category(ies)</b>	
<b>Article Sub-category(ies)</b>	

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<b>Is the Product a spray?</b>	No
<b>Maximum fraction of the product in the consumer product used per consumer per event</b>	1
<b>Max. dermal contact area with skin</b>	2 inside hands / one hand / palm of hands
<b>Max. oral contact area with mouth</b>	1 some fingertips
<b>Maximum amount used per consumer per event</b>	Not applicable
<b>Optional : provide risk management measures if needed</b>	Avoid spraying directly into eyes or nose
<b>Environmental exposure</b>	
<b>Maximum amount of product used per year. If the amount used is variable, use the higher value as the maximum tonnage to be covered.</b>	100
<b>Use of sewage/waste water treatment plant (STP) for selected ERC</b>	Not applicable
<b>Max. number of emission days per year</b>	150
<b>Industry sector for spERC</b>	
<b>Industry sector spERC - will overwrite ERC in risk assessment</b>	
<b>Treatment of waste air</b>	Scrubber
<b>Treatment of waste solids</b>	3rd party disposal
<b>Treatment of waste liquids (not for waste water - see 6.2.4)</b>	3rd party disposal
<b>Treatment of waste water</b>	
Pre-treatment	Sedimentation
<b>Sewage/waste water treatment plant (STP) description:</b>	
- give flow rates and describe capacity of STP	
- elimination rate in STP	
- dry weather river flow rate	
- describe sludge solids disposal	
<b>Waste Management Measures</b>	

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<b>Information on measures to control risk during production and use stages of substance, preparation or article</b>	This material and/or its container must be disposed of as hazardous waste
<b>Information on measures to control risk at the end of service life of substance, preparation or article</b>	Use appropriate containment to avoid environmental contamination
<b>Exposure prediction</b>	
<b>Do you have relevant measurement data available (worker exposure, environmental release, consumer safety) for the applicable PROC's, ERC's and PC's/AC's.</b>	Yes
<b>If yes, please attach this information. Please indicate the conditions under which the measurements have been taken.</b>	PDK (CIS) 3000 mg/m <sup>3</sup> TWA 3600 mg/m <sup>3</sup>
<b>Boundaries set by Exposure Scenario</b>	
<b>Please provide additional information that you deem relevant for this use, Operational Conditions and Risk Management Measures</b>	Hold the container strongly closed. The premise where works are spent, should be supplied by a forced-air and exhaust ventilation. At work with R-14 do not smoke and do not accept food, use personal protection frames.