

Safety Data Sheet Busch YLC 250 B

under the terms of 1999/45/EC



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1. Identification of the substance/preparation and company/undertaking

Product name: Busch YLC 250 B
Use of the substance/preparation: Vacuum pump oil for specific application advice see appropriate Technical Data Sheet of their respective vacuum pumps.
Supplier: Dr.-Ing. K. Busch GmbH and Busch Produktions GmbH
Schauinslandstr. 1
Postfach 1251
D-79689 Maulburg
Tel.: +49 (0) 7622 – 681 – 0
Fax: + 49 (0) 7622 – 5484
Emergency telephone number: Poison Centre Berlin (0) 30 30686 790
24-hours-emergency telephone code ++49 (0) 30 30686 790

2. Hazards identification

Generalities: The product is not classified as dangerous according to Directive 67/548/EEC and its amendments.
Classification: Not classified.
Environmental hazards: See section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Substance/preparation: Preparation

Ingredient name	CAS-Number	%	EG-Number	Classification
1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd.	69991-67-9	> 99,9	Exempt or not available	none

4. First-aid measures

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
Skin contact: Wash with soap and water. Obtain medical attention if symptoms occur.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear.
Ingestion: Drink 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.
Notes to physician: Treatment should in general be symptomatic and directed to relieving any effects.

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5. Fire-fighting measures

Extinguishing media:

- Suitable: In case of fire, use water, powder, foam, dry chemical or carbon dioxide (CO₂) extinguisher or spray.
- Not suitable: No specific data.

Hazardous thermal decomposition products: The final products of combustion are carbon oxides and water. Nitrogen, sulfur and metal oxides may also be produced in some cases.

Hazardous combustion products: In case of fire hazardous decomposition products may be produced such as:
- Gaseous hydrogen fluoride (HF)
- Fluorophosgene

Special exposure hazards: The product is not flammable and not explosive.

Special firefighting measures: No specific data.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up: Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

large redundant quantity: see Environmental precautions

small redundant quantity: see Environmental precautions

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7. Handling and storage

Handling: Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials

Recommended: Use original container.

8. Exposure controls/personal protection

Exposure limit values

Ingredient name	Occupational exposure limits
ACGIH TLVs:	
Hydrogen fluoride anhydrous	UK. EH40 Workplace Exposure Limits (WELs) 2005 time weighted average = 1.8 ppm time weighted average = 1.5 mg/m ³ , Remarks: as F
Hydrogen fluoride anhydrous	UK. EH40 Workplace Exposure Limits (WELs) 2005 Short term exposure limit = 3 ppm Short term exposure limit = 2.5 mg/m ³ , Remarks: as F
Hydrogen fluoride anhydrous	US. ACGIH Threshold Limit Values 2007 time weighted average = 0.5 ppm, Remarks: as F
Hydrogen fluoride anhydrous	US. ACGIH Threshold Limit Values 2007 Ceiling Limit Value = 2 ppm, Remarks: as F
Hydrogen fluoride anhydrous	EU. Indicative Exposure and Directives relating to the protection of risks related to work exposure to chemical, physical, and biological agents. 02 2006 time weighted average = 1.8 ppm time weighted average = 1.5 mg/m ³
Hydrogen fluoride anhydrous	EU. Indicative Exposure and Directives relating to the protection of risks related to work exposure to chemical, physical, and biological agents. 02 2006 Short term exposure limit = 3 ppm Short term exposure limit = 2.5 mg/m ³
Carbonyl difluoride	US. ACGIH Threshold Limit Values 01 2006 time weighted average = 2 ppm
Carbonyl difluoride	US. ACGIH Threshold Limit Values 01 2006 Short term exposure limit = 5 ppm
Carbonyl difluoride	UK. EH40 Workplace Exposure Limits (WELs) 2005 time weighted average = 2.5 mg/m ³ , Remarks: as F
Carbonyl difluoride	EU. Indicative Exposure and Directives relating to the protection of risks related to work exposure to chemical, physical, and biological agents. 02 2006 time weighted average = 2.5 mg/m ³
Generalities:	Threshold limit values of by-products from thermal decomposition.

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For information and guidance, the ACGIH values are included. For further information on these please consult your supplier.

Whilst specific OELs for certain components may be shown in this section, other components may be present in any mist, vapour or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Exposure controls

Recommended monitoring procedures:	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.
Occupational exposure controls:	No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
Hygiene measures:	Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. During formulation, follow good industrial hygiene practice.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Personal protective equipment

Respiratory protection:	Respiratory protective equipment is not normally required where there is adequate natural or local exhaust ventilation to control exposure. In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection:	Rubber or plastic gloves, Latex gloves. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Eye protection:	Safety glasses with side shields.
Skin and body:	Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

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9. Physical and chemical properties

General information/appearance

Physical state: Liquid
Colour: colourless
Odour: odourless

Important health, safety and environmental information

Flash point: Remarks: The product is not flammable.
Boiling point/boiling range: > 270 °C (Pressure: 1,013 hPa)
viscosity: 532 mPa.s (Temperature: 20 °C)
flow limit: No specific data.
Relative density: 1.90 (Temperature: 20 °C)
Solubility: Water insoluble
fluorinated solvents soluble
Vapour pressure: 0.000001 hPa (Temperature: 20 °C)
Decomposition temperature: > 290 °C

10. Stability and reactivity

Stability: The product is stable.
Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous polymerisation will not occur.
Conditions to avoid: To avoid thermal decomposition, do not overheat. Keep away from flames and sparks.
Materials to avoid: Flammable materials, Combustible material, metals promote and lower decomposition temperature, Lewis acids (Friedel-Crafts) above 100°C, Aluminum and magnesium in powder form above 200°C.
Hazardous decomposition products: Gaseous hydrogen fluoride (HF)., Fluorophosgene

11. Toxicological information

Acute toxicity

Product/ingredient name	Test / Type	Species	Dose	Exposure
YLC 250 B	LD50 Oral	rat	>15.000 mg/kg	-
	LD50 Dermal	rat	>5.000 mg/kg	-

Generalities: Thermal decomposition can lead to release of toxic and corrosive gases. Exposure to decomposition products. Causes severe irritation of eyes, skin and mucous membranes.

Chronic effects: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: Not mutagenic in Ames Test. Chromosome aberration test in vitro, negative.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eyes: Contact with eyes may cause irritation and redness.
Skin: Symptoms: Redness.
Inhalation: No specific data.
Ingestion: Symptoms: Nausea, Vomiting, Diarrhoea.

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12. Ecological information

Environmental effects:	Ecological injuries are not known or expected under normal use.
Persistence/degradability:	No specific data.
Mobility:	No specific data.
Bioaccumulative potential:	No specific data.
Other ecological information:	Acute toxicity - Fishes, Brachydanio rerio, LC50, 96 h, > 360 mg/l Remarks: saturated aqueous solution - Crustaceans, Daphnia magna, EC50, > 360 mg/l Remarks: saturated aqueous

13. Disposal consideration

Product	
Disposal considerations/waste information:	The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
Hazardous waste:	No specific data.
Unused product	
Waste information:	Can be incinerated, when in compliance with local regulations. - The incinerator must be equipped with a system for the neutralisation or recovery of HF. - In accordance with local and national regulations.

14. Transport information

International transport regulations	
Sea (IMO/IMDG) not regulated	Not regulated by any transport mode.
Air (ICAO/IATA)	
European Road/Rail (ADR/RID):	

15. Regulatory information

EU regulations:	Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.
Risk phrases:	This product is not classified according to Directive 67/548/EEC.
Product use:	Industrial applications.
Europe inventory:	All components are listed or exempted.

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Other EU-regulations

Additional warning phrases: No specific data.

Toxic Substance Control Act list: (TSCA) All components are listed or exempted.

Australian Inventory of Chemical Substances (AICS): All components are listed or exempted.

Canadian Domestic Substances List (DSL): All components are listed or exempted.

Inventory of Existing Chemical Substances (China) (IECS): All components are listed or exempted.

Japan inventory (ENCS): All components are listed or exempted.

Korea Existing Chemicals Inv. (KECI) (KECI (KR)): All components are listed or exempted.

New Zealand Inventory (in preparation) (NZ): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

EU list of existing chemical substances (EINECS): not applicable, Product falls under the EU-polymer definition..

National regulations

Germany WGK Id-No. 6526

Hazard Class for water (WGK), according to VwVwS:

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16. Other information

History

Date of previous issue: 03.12.2009
Date of issue / Date of revision: 24.04.2009
Prepared by Dr. -Ing. K. Busch GmbH / VCA / Mr. Christiansen
Company / department / name:

Notice to reader:

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