



SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 and 453/2010 (REACH)

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1. IDENTIFICATION OF THE SUBSTAND AND COMPANY

Trademark:	VALOX™
Product Code:	4521 - 10000
Product Description:	Polybutylene Terephthalate [CASRN 30965-26-5] glass fiber filled
Product Type:	Commercial Product
Recommended use:	May be used to produce molded or extruded articles or as a component of other industrial products.
Company:	SABIC Innovative Plastics B.V. Plasticslaan 1 P.O. Box 117 4600 AC Bergen op Zoom The Netherlands
Manufacturer:	SABIC Innovative Plastics B.V. Plasticslaan 1 P.O. Box 117 4600 AC Bergen Op Zoom The Netherlands
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E-mail:	webinquiries@sabic-ip.com
Website Address:	www.sabic-ip.com

2. HAZARDS IDENTIFICATION

The additives in this product are bound in a thermoplastic resin matrix. In accordance with GHS for the classification of the product, the hazard potential may be assessed with respect to the physico-chemical form and/or bioavailability of the individual components in the thermoplastic resin.

Where GHS classifications are shown below, these are based on the individual components in the thermoplastic resin matrix. Under the typical use conditions for the resin, these hazardous components are unlikely to contribute to workplace exposure. Please read the entire safety data sheet and/or consult an EHS professional for a complete understanding.

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Route of exposure, mechanistic information and metabolism studies are pertinent to determining the relevance of an effect in humans (GHS section 1.3.2.4.9.4). Where appropriate, GHS classification can be specified as route-dependent. The size distribution of the pellets containing the Antimony Trioxide eliminates the carcinogenicity hazard potential from Antimony Trioxide. This is the case because carcinogenicity of Antimony Trioxide has only been observed in animal studies under conditions that can lead to pulmonary overload.



CLP/GHS-Labeling

Precautionary Statements

Other hazards which do not result in classification:

SABIC Emergency Overview

- Pellets with slight or no odor
- Spilled material may create slipping hazard
- Can burn in a fire creating dense, toxic smoke
- Molten plastic can cause severe thermal burns
- Fumes produced during melt processing may cause eye, skin, and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills, and fever. See below for additional effects.
- Secondary operations, such as grinding, sanding, or sawing can produce dust which may present an explosion or respiratory hazard.

Other Information:

Cool skin rapidly with cold water after contact with molten material. Heating can release hazardous gases. Hazardous fumes can also occur in post-processing operations.

Processing Issues:

Processing vapors may cause irritation to the eyes, skin, and respiratory tract. In cases of severe exposure, nausea and headache can also occur. Grease-like processing vapor condensates on ventilation ductwork, molds, and other surfaces can cause irritation and injury to skin.

Aggravated Medical Conditions:

MEDICAL RESTRICTIONS: There are no known health effects aggravated by exposure to this product. However, certain sensitive individuals and individuals with respiratory impairments may be affected by exposure to components in the processing vapors.

3. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS:

Chemical Name	CAS Number	Weight %	Classification (67/548/EEC):	GHS Classification (EC) No. 1272/2008 [CLP]:
Fiberglass, EU/GHS classified	65997-17-3	10-30	Classification: Carc. Cat.3; R40	Carc. 2 (H351)
Antimony trioxide Sb ₂ O ₃	1309-64-4	1-5	Carc. Cat.3; R40	Acute Tox. 5 (H303) Carc. 2 (H351)
Tetrahydrofuran	109-99-9	0.1-0.3	Classification: F; R11, R19 Xi; R36/37, R40	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) STOT SE 3 (H335) Carc. 2 (H351)

For the full text of the H-phrases, if mentioned in this section, see Section 16.

For the full text of the R-phrases, if mentioned in this Section, see Section 16.

This product consists primarily of high molecular weight polymers which are not expected to be hazardous. The ingredients in this product are present within the polymer matrix and are not expected to be hazardous.



4. FIRST AID MEASURES

If Inhalation:	Move to fresh air in case of accidental inhalation of fumes from overheating or combustion If symptoms persist, call a physician
On skin contact:	Wash off immediately with soap and plenty of water Immediately cool the skin by rinsing with cold water after contact with hot material Consult a physician
On contact with eyes:	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes If eye irritation persists, consult a specialist
On ingestion:	No hazards which require special first aid measures
Precautions:	Cool molten product on skin with plenty of water. Do not remove solidified product Do not peel polymer from the skin

5. FIRE-FIGHTING MEASURES

Autoignition Temperature:	630°C (1166°F) estimated
Explosive Limits upper:	Not determined
lower:	Not determined
Suitable Extinguishing Media:	Use dry chemical, CO ₂ , water spray or "alcohol" foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition on larger resin fires (blobs, drools, etc.)
Unsuitable Extinguishing Media for Safety Reasons:	Do not use a solid water stream as it may scatter and spread fire
Hazardous Decomposition Products:	Fire will produce dense black smoke containing hazardous combustion products carbon oxides hydrocarbons fragments
Hazards from Combustion Products:	brominated hydrocarbons.
Special Protective Equipment for Firefighters:	In the event of fire, wear self-contained breathing apparatus (EU: NEN-EN137)
Specific Hazards:	Take precautionary measures against static discharges During processing, dust may form explosive mixture in air Thermal decomposition can lead to release of irritating gases and vapors



6. ACCIDENTAL RELEASE MEASURES

Clean up:	Sweep up and shovel into suitable containers for disposal. Do not create a powder cloud by using a brush or compressed air.
Personal Precautions:	See section 8.
Environmental Precautions:	Do not flush into surface water or sanitary sewer system. Material should not be released into the environment.

7. HANDLING AND STORAGE

Handling:	Handle in accordance with good industrial hygiene and safety practices. Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid dust formation. All metal parts of the mixing and processing equipment must be earthed.
Storage:	Store in closed container in a dry and cool area. Keep away from heat sources and sources of ignition.



8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits:	No components with information, unless noted below
Chemical Name	Fiberglass, EU/GHS classified
EU TWA	65997-17-3
Netherlands OEL - MAC	5 mg/m ³
	10 MGM3 Dust.
	2 MGM3 Respirable dust.
	2 FIBERS/CM3 Respirable fibers.
UK EH40 MEL (TWA)	WEL_TWA: 1 mg/m ³ as W; WEL_STEL: 3 mg/m ³ as W
Spain - Valores Limite Ambientales - VLE	1FIBERS/CM3
	0.5FIBERS/CM3
Switzerland SUVA Limit Values at the Workplace Data - Time Weighted Average (TWA):	Kol_C: k_1C ; Comments: No data
Norway Exposure Limit Values Data - Threshold Limit Value:	KONS: 5 mg/m ³ totalstøv
Ireland Exposure Limit Values Data - Time Weighted Average (TWA):	TWA 5 mg/m ³ , 1 fibres/cm3 of air
Italy - OEL	0.2 FIBERS/CM3 Fiber.
	1 FIBERS/CM3 Fiber.
	5 MGM3 Inhalable fraction.
Chemical Name	Antimony trioxide Sb2O3
SABIC Recommend (8 Hr)*	1309-64-4
France INRS (VME)	0.5 mg/m ³ TWA as antimony compounds
Netherlands OEL - MAC	0.5 MGM3 Sb
UK EH40 MEL (TWA)	0.5 MGM3 Sb
Spain - Valores Limite Ambientales - VLE	WEL_TWA: 0.5 mg/m ³ as Sb
	0.5MGM3
Denmark TWA Data - Threshold Limit Values (TLV):	GR: 0.5 mg/m ³ beregnet som Sb
Switzerland SUVA Limit Values at the Workplace Data - Time Weighted Average (TWA):	0.1 MGM3 Inhalable dust. Sb
Sweden Threshold Limit Values Data -	0.5 MGM3 Total dust. Sb
Norway Exposure Limit Values Data - Threshold Limit Value:	KONS: 0.5 mg/m ³ som Sb; Anm: K
Ireland Exposure Limit Values Data - Time Weighted Average (TWA):	TWA 0.5 mg/m ³ as Sb
Greece - OEL	0.5 MGM3 Sb
Finland Exposure Limit Values Data - Time Weighted Average (TWA):	HTP_8: 0.5 mg/m ³ ; HTP_15: 40 mg/m ³ ; HOU: Sb
Italy - OEL	0.5 MGM3 Sb
Chemical Name	Tetrahydrofuran
SABIC Recommend (8 Hr)*	109-99-9
EU STEL	50 ppm TWA
Germany (DFG) - MAK	300 MGM3 100 ppm
	ARBEIT: 150 mg/m ³ , 50 ml/m ³ (ppm) ; SPITZ: 2(l) ; BEM: DFG , p_H , p_Y
Netherlands OEL - MAC	WNG_8: 300 mg/m ³ ; WNB_15: 600 mg/m ³ ; Notatie: Skin
UK EH40 MEL (TWA)	WEL_TWA: 150 mg/m ³ , 50 ppm ; WEL_STEL: 300 mg/m ³ , 100 ppm ; p_R: R11 , R36/37 , R19 ; COMMENTS: SKIN
Spain - Valores Limite Ambientales - VLE	VLA-ED: 50 ppm , 150 mg/m ³ ; VLA-EC: 100 ppm , 300 mg/m ³ ; NOTAS: dermica , VLB , VLI ; p_FR: R11 , R19 , R36/37
Denmark TWA Data - Threshold Limit Values (TLV):	ANM: p_E , p_H ; GR: 148 mg/m ³ , 50 ppm GRL: 50 ppm ; ANM: p_H
Switzerland SUVA Limit Values at the Workplace Data - Time Weighted Average (TWA):	MAK_Wert: 50 ppm , 150 mg/m ³ ; Kurz_Wert: 100 ppm , 300 mg/m ³ ; HSB: p_H , p_B ; Kol_SS: Grp_C ; Zeitl.: 4x15 min
Sweden Threshold Limit Values Data -	KTV: 250 MGM3 , 80 PPM ; NGV: 150 MGM3 , 50 PPM



Portugal - TWAs

VLE-CD: 250 ppm ; VLE-MP: 200 ppm ; NOT: IBE; FUND:

Norway Exposure Limit Values Data - Threshold Limit Value:

Irritação, Narcose

KONS: 50 ppm , 150 mg/m³ ; Anm: H (SKIN)

Ireland Exposure Limit Values Data - Time Weighted Average (TWA):

TWA 40 ppm , 118 mg/m³ ; STEL 100 ppm , 295 mg/m³ ; NOT IOELV, Skin

Greece - OEL

DT_1 200 ppm , 590 mg/m³ ; DT_2 250 ppm , 735 mg/m³

Finland Exposure Limit Values Data - Time Weighted Average (TWA):

HTP_8: 50 ppm , 150 mg/m³ ; HTP_15: 100 ppm , 300 mg/m³ ;

Luxembourg

HOU: iho (SKIN) ; R-lauseet: R11 , R19 , R36/37

Valeurs limites - 8 heures 150 mg/m³ , 50 ppm ; Valeurs limites - Court terme 300 mg/m³ , 100 ppm ; Note: Peau

Italy - OEL

VL-8: 50 PPM , 150 MGM3 ; VL-15: 100 PPM , 300 MGM3 ;

NOT: Pelle (SKIN)

**SABIC Recommended Exposure Limits have been established for certain chemicals.*

Engineering Measures to Exposure:

In the case of hazardous fumes, wear self-contained breathing apparatus. Wear face-shield and protective suit for abnormal processing problems. Handle in accordance with good industrial hygiene and safety practice. Provide for appropriate exhaust ventilation at machinery. Handle in accordance with good industrial hygiene and safety practice for diagnostics. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Polybutyleneterephthalate fumes and condensates may contain trace quantities of tetrahydrofuran (typically less than 1 ppm, see section 2, 3 and 11).

Hand Protection:

Protective gloves should be worn. (EU: NEN-EN 374).

Eye Protection:

Safety glasses with side-shields. (EU: NEN-EN 165-166).

Respiratory Protection:

In the case of hazardous fumes, wear self contained breathing apparatus. In case of insufficient ventilation wear suitable respiratory equipment. (EU: NEN-EN149).

Body Protection:

Long sleeved clothing. (EU: NEN-EN 340-369-465).

Hygiene Measures:

When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:

Solid

Appearance:

Pellets

Color:

Same as color code

Odor:

None

Melting point/range:

Various

Autoignition Temperature:

630°C (1166°F) estimated

Vapor Pressure:

Negligible

Water Solubility:

Insoluble

Evaporation Rate:

Negligible

Specific gravity:

>1; (water = 1)

VOC content (%):

Negligible

Explosive Limits

upper:

Not determined

lower:

Not determined



10. STABILITY AND REACTIVITY

Stability:	Stable under ambient conditions. Hazardous polymerization does not occur.
Conditions to Avoid:	To avoid thermal decomposition, avoid elevated temperatures. Heating can result in the formation of gaseous decomposition products, some of which may be hazardous. Avoid temperatures above 630°C.
Hazardous Decomposition Products:	Traces of, tetrahydrofuran (THF), bromine, hydrogen bromide, brominated hydrocarbons.

11. TOXICOLOGICAL INFORMATION

LD50/oral/rat:	>5000 mg/kg
LD50/dermal/rabbit:	>2000 mg/kg
Subchronic Toxicity:	No information available
Primary Irritation:	Substance does not generally irritate and is only mildly irritating to the skin Skin irritation
IARC:	Not listed
OSHA:	Not regulated
NTP:	Not tested Tetrahydrofuran: In 2-year carcinogenicity bioassays conducted by the National Toxicology Program (NTP), mice and rats (50/sex/group) were exposed to concentrations of 0, 200, 600, or 1,800 ppm via inhalation 6 hours/day, 5 days/week for 104 weeks. Under the conditions of these 2-year inhalation studies, there was some evidence of carcinogenic activity of tetrahydrofuran in male F344/N rats based on increased incidences of renal tubule adenoma or carcinoma (combined) at 600 and 1,800 ppm. There was no evidence of carcinogenic activity of tetrahydrofuran in female F344/N rats exposed to 200, 600, or 1,800 ppm or male B6C3F1 mice exposed to 200, 600, or 1,800 ppm. There was clear evidence of carcinogenic activity of tetrahydrofuran in female B6C3F1 mice based on increased incidences of hepatocellular neoplasms observed at 1,800 ppm.
Remarks:	The toxicological data has been taken from products of similar composition
Special Studies:	PROCESSING FUMES: Processing fumes evolved at recommended processing conditions may contain trace amounts of tetrahydrofuran (typically less than 1 ppm). Extreme processing conditions or temperatures may result in higher levels. See section 8 for appropriate exposure controls and personal protection. In 2-year carcinogenicity bioassays conducted by the National Toxicology Program (NTP), mice and rats (50/sex/group) were exposed to tetrahydrofuran at concentrations of 0, 200, 600, or 1,800 ppm via inhalation 6 hours/day, 5 days/week for 104 weeks. Under the conditions of these 2-year inhalation studies, there was some evidence of carcinogenic activity of tetrahydrofuran in male F344/N rats based on increased incidences of renal tubule adenoma or carcinoma (combined) at 600 and 1,800 ppm. There was no evidence of carcinogenic activity of tetrahydrofuran in female F344/N rats exposed to 200, 600, or 1,800 ppm or male B6C3F1 mice exposed to 200, 600, or 1,800 ppm. There was clear evidence of carcinogenic activity of tetrahydrofuran in female B6C3F1 mice based on increased incidences of hepatocellular neoplasms observed at 1,800 ppm. Antimony trioxide: Tested in a chronic inhalation of 45 mg/m ³ by guinea pigs resulted in extensive pneumonitis and fatty degeneration of the liver. Other long-term inhalation studies in rats and rabbits found lipid pneumonitis. One epidemiology study of process workers exposed to antimony metal suggests an increase in lung cancer. Animal studies and epidemiological studies suggests developmental toxicity.



12. ECOLOGICAL INFORMATION

Ecotoxicity Effects: Do not flush into surface water or sanitary sewer system.

Ecotoxicity - Invertebrate Data: Ecological damages are not known or expected under normal use.

Germany VCI (WGK): 0

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Where possible recycling is preferred to disposal or incineration. Dispose of in accordance with local regulations.

EWC waste disposal no: 702 - waste from the manufacture, formulation, supply and use of plastics, synthetic rubber and man-made fibres.

14. TRANSPORT INFORMATION

Transport Classification: Not regulated as hazardous for shipment, unless noted below, under current transportation guidelines.

DOT

ADR/RID/ADN

IMDG

ICAO

IATA-DGR



15. REGULATORY INFORMATION

This substance is classified and labelled according to Annex I of Directive 67/548/EEC, as amended.

International Inventories:

TSCA (USA):	Listed
DSL (Canada):	Listed
EINECS/ELINCS (Europe):	Listed
ENCS (Japan):	Listed
IECSC (China):	Listed
KECL (Korea):	Listed
PICCS (Philippines):	Listed
AICS (Australia):	Listed
NZIoC (New Zealand):	Listed
REACH Information:	For this product's REACH related information, please contact webinquiries@sabic-ip.com

Other Inventory Information:

A "Listed" entry above means all chemical components are on the respective inventory list and/or a qualifying exemption exists for one or more components. A "Not listed" entry above indicates one or more components is restricted from import or manufacture into that country/region. Articles are exempt from registration and are therefore not listed on the national chemical inventories.

SVHC (REACH Regulation (EC) No 1907/2006 and 453/2010, as amended):

This product does not intentionally contain SVHC chemicals except as noted below. Incidental amounts of impurities, if present, would be below the threshold limit of 0.1% by weight.

California Proposition 65:

Components in this product known to the State of California to cause cancer and/or reproductive effects, are listed below:

Chemical Name	Weight %	California Proposition 65:
Fiberglass, EU/GHS classified 65997-17-3	10-30	Listed: July 1, 1990 Carcinogenic. (airborne, unbound particles of respirable size)
Antimony trioxide Sb2O3 1309-64-4	1-5	Type of Toxicity: cancer
lead oxide 1317-36-8	<100 ppm	Listed: October 1, 1992 Carcinogenic
arsenic trioxide 1327-53-3	<100 ppm	Listed February 27, 1987 Carcinogenic and May 1, 1997 Developmental toxicity

RoHS EU Directive 2011/65/EU:

The subject product is in compliance with EU RoHS Directive 2011/65/EU. All below chemicals are not employed in the manufacture of the product: a.Cadmium and its compounds, b.Lead and its compounds, c.Mercury and its compounds, d.Hexavalent chromium compounds, e.Polybrominated biphenyls (PBBs), f.Polybrominated diphenyl ethers (PBDEs including Deca-BDE). The trace levels of heavy metals may be present as impurities within threshold limits (<0.1% for Pb, Hg, Cr VI, and <0.01% for Cd). We are disclosing this information, to the best of our knowledge, based upon data from our raw material manufacturers.

16. OTHER INFORMATION

Risk Phrases:

R40 - Limited evidence of a carcinogenic effect

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Visit our public website to search, view and print Safety Data Sheets for commercial products:

<http://eur.sabic-ip.com/ordeur/pages/msds/MSDSSearch.jsp?app=sabic-ip>



SDS Scope:

Europe: Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 453/2010. This document is also applicable in other countries and regions.

Prepared by: Product Stewardship & Toxicology

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End of Safety Data Sheet