

Safety Data Sheet

according to Regulation (EC) No 1907/2006

BRUFASOL Gelb / Yellow AL 40

Print date: 09.12.2014

Product code: BFSOL_Gelb_AL40

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Chemical characterization

Bismuth Vanadium Tetroxide: CAS: 14059-33-7 / EINECS: 237-898-0 / REACH: 01-2119486965-17

Colour Index: Pigment Yellow 184 / C.I. No.: 771740

Product is inorganic.

Sum formula:

BiVO₄**Hazardous components**

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
237-898-0	Bismuth vanadate; C.I. Pigment Yellow 184, Particle size < 10 µm (respirable fraction)	< 10 %
14059-33-7	Xn - Harmful R48/20	
	STOT RE 2; H373	

Full text of R-, H- and EUH-phrases: see section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****After inhalation**

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. In all cases of doubt, or when symptoms persist, seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

The following symptoms may occur: Asthmatic complaints. difficulties of breathing.

4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture

No risks worthy of mention.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Suppress gases/vapours/mists with water spray jet.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation. Avoid generation of dust. Wear breathing apparatus if exposed to

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vapours/dusts/aerosols.

6.2. Environmental precautions

No special environmental protection measures are necessary.

6.3. Methods and material for containment and cleaning up

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

none

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

No special handling instructions are necessary.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container dry. Keep container tightly closed in a cool, well-ventilated place.

Further information on storage conditions

Store in a cool dry place.

7.3. Specific end use(s)

The product is intended for professional use.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Additional advice on limit values**

DNEL inhalation (long-term / local effects, professionals): 0,02 mg/m³
DNEL inhalation (long-term / local effects, consumers): 0,005 mg/m³
DNEL oral (long-term / systematic effects, consumers): 20 mg/kg bw/day
PNEC aqua (freshwater): –
PNEC aqua (marine water): –
PNEC aqua (intermittent releases): –
PNEC sediment (freshwater): –
PNEC sediment (marine water): –
PNEC soil: –
PNEC sewage treatment plant: 10000 mg/l
PNEC oral: –

8.2. Exposure controls**Appropriate engineering controls**

see attached exposure scenario.

Protective and hygiene measures

Change contaminated clothing. Protect skin by using skin protective cream. After work, wash hands and face. Do not eat, drink, smoke or sneeze at the workplace.

Eye/face protection

Tightly sealed safety glasses.

Hand protection

Wash hands before breaks and after work.

Skin protection

Protective clothing: Street clothing should be stored separately from work clothing.

Respiratory protection

Respiratory protection: In the case of the formation of dust.

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Half-face mask or quarter facepiece: maximum use concentration for substances with exposure limits:
 P1 filter: up to a max. of 4 times the exposure limit. P2 filter: up to a max. of 10 times the exposure
 limit. P3 filter: up to a max. of 30 times the expo

Environmental exposure controls

see attached exposure scenario.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state: solid: Powder
 Colour: yellow
 Odour: odourless

Test method

pH-Value: 6 - 8

Changes in the physical state

Melting point: >1000 °C
 Flash point: Non-flammable.
 Ignition temperature: Non-flammable.
 Density: 5,0 - 6,0 g/cm³
 Water solubility: insoluble

9.2. Other information

Solid content: 100,00 %

Further information: see technical data sheet.

SECTION 10: Stability and reactivity**10.1. Reactivity**

No ignition, explosion, self-heating or visible decomposition.

10.2. Chemical stability

The product is stable.

10.3. Possibility of hazardous reactions

No risks worthy of mention.

10.4. Conditions to avoid

No special measures are necessary.

10.5. Incompatible materials

No special precautionary measures are necessary.

10.6. Hazardous decomposition products

Hazardous decomposition products: No.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

Toxicological tests

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Acute toxicity

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
14059-33-7	Bismuth vanadate; C.I. Pigment Yellow 184, Particle size < 10 µm (respirable fraction)				
	oral	LD50	>5000 mg/kg	Rat (Wistar)	
	inhalative aerosol	LC50	>5,15 mg/l	Rat (Wistar)	

Irritation and corrosivity

Irritant effect on the skin: Not an irritant.

species: Rabbit

OECD 404

Irritant effect on the eye: Not an irritant.

Species: Rabbit

OECD 405

Additional information on tests

The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	[h] [d]	Species	Source
14059-33-7	Bismuth vanadate; C.I. Pigment Yellow 184, Particle size < 10 µm (respirable fraction)					
	Acute fish toxicity	LC50	>10000 mg/l	96 h	Danio rerio (reported as Brachydanio rerio)	
	Acute algae toxicity	ErC50	>100 mg/l		Desmodesmus subspicatus	
	Acute crustacea toxicity	EC50	>100 mg/l	48 h	Daphnia magna	

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

12.4. Mobility in soil

Mobility/evaluation: Low.

12.5. Results of PBT and vPvB assessment

Product is inorganic.

This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No data available

Further information

The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation.

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Contaminated packaging

Water (with cleaning agent). Completely emptied packages can be recycled.

SECTION 14: Transport information**Land transport (ADR/RID)****Other applicable information (land transport)**

No dangerous good in sense of these transport regulations.

Inland waterways transport (ADN)**Other applicable information (inland waterways transport)**

No dangerous good in sense of these transport regulations.

Marine transport (IMDG)**Other applicable information (marine transport)**

No dangerous good in sense of these transport regulations.

Air transport (ICAO)**Other applicable information (air transport)**

No dangerous good in sense of these transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information****Additional information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Classification according EC regulation 1272/2008 (CLP):

Labelling (EU-GHS)

National regulatory information

Water contaminating class (D): - - not water contaminating

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information**Relevant R-phrases (Number and full text)**

48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Relevant H- and EUH-phrases (Number and full text)

H373 May cause damage to organs through prolonged or repeated exposure.

Further Information

Chemical Safety Report, Chapter 9: EXPOSURE ASSESSMENT