SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

VS 220

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the substance or mixture:
Gear lubricant

Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet

Busch Produktions GmbH, Schauinslandstraße 1, 79689 Maulburg, Germany
Phone:+49 (0)7622 681-0, Fax: ---

Qualified person’s e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

National Poisons Information Centre, Beaumont Hospital, Dublin 9, Ireland, Tel.:
+353 (0)1 809 2166 (Public Poisons Info Line, 8am-10pm, 7 days a week)
+353 (0)1 809 2586 (Info for Healthcare Professionals ONLY, 24 h, 7 days a week)

Telephone number of the company in case of emergencies:
+49 (0) 700 / 24 112 112 (BPC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)
The mixture is not classified as dangerous in the terms of the Regulation (EC) 1272/2008 (CLP).

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)

EUH208-Contains 3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid. May produce an allergic reaction.
EUH210-Safety data sheet available on request.

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

SECTION 3: Composition/information on ingredients
3.1 Substance
n.a.

3.2 Mixture

<table>
<thead>
<tr>
<th>Registration number (REACH)</th>
<th>---</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index</td>
<td>---</td>
</tr>
<tr>
<td>EINECS, ELINCS, NLP</td>
<td>---</td>
</tr>
<tr>
<td>CAS</td>
<td>---</td>
</tr>
<tr>
<td>content %</td>
<td>---</td>
</tr>
<tr>
<td>Classification</td>
<td>---</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures
First-aiders should ensure they are protected!
Never pour anything into the mouth of an unconscious person!

Inhalation
Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms.

Skin contact
Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact
Remove contact lenses.
Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion
Rinse the mouth thoroughly with water.
Do not induce vomiting. Consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed
If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.
Sensitive individuals:
Allergic reaction possible.
With oil mist formation:
Irritation of the respiratory tract
coughing
breathing difficulties
Ingestion:
Nausea
Vomiting
diarrhoea

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

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Foam
Water jet spray
Water mist

Unsuitable extinguishing media
High volume water jet

5.2 Special hazards arising from the substance or mixture
In case of fire the following can develop:
- Oxides of carbon
- Fume
- Hydrocarbons
- Decomposition products

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
According to size of fire
Full protection, if necessary.
Cool container at risk with water.
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Keep unprotected persons away.
Ensure sufficient ventilation.
Avoid contact with eyes or skin.
If applicable, caution - risk of slipping.
During transfer operations:
Take measures against electrostatic charging, if appropriate.

6.2 Environmental precautions
If leakage occurs, dam up.
Resolve leaks if this possible without risk.
Prevent surface and ground-water infiltration, as well as ground penetration.
Prevent from entering drainage system.
If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up
Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.
Fill the absorbed material into lockable containers.

6.4 Reference to other sections
For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations
Ensure good ventilation.
Keep away from sources of ignition - Do not smoke.
Avoid contact with eyes.
Avoid long lasting or intensive contact with skin.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
Take measures against electrostatic charging, if appropriate.

7.1.2 Notes on general hygiene measures at the workplace
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities
Store product closed and only in original packing.
Not to be stored in gangways or stair wells.
Under all circumstances prevent penetration into the soil.
Protect from direct sunlight and warming.
Earth devices.
7.3 Specific end use(s)
No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

### Chemical Name: Oil mist, mineral

| WEL-TWA: | 5 mg/m³ (Mineral oil, excluding metal working fluids, ACGIH) |
| WEL-STEL: | --- |
| Monitoring procedures: | Draeger - Oil 10/a-P (67 28 371) |
| BMGV: | --- |
| OELV-8h: | 5 mg/m³ (Mineral oil, pure, highly & severely refined (inhalable)) |
| OELV-15min: | --- |
| Monitoring procedures: | Draeger - Oil 10/a-P (67 28 371) |
| BLV: | --- |

**WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period)**

**EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).**


**WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).**

**BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany).**

**OELV-8h = Occupational Exposure Limit Value (8-hour reference period). (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.**

**OELV-15min = Occupational Exposure Limit Value (15-minute reference period). (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.**

**BLV = Biological limit value.**

**Other information:** Sen = Capable of causing occupational asthma. Carc = Capable of causing cancer and/or heritable genetic damage. Asphx = Asphyxiant. Sk = Can be absorbed through skin.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. BS EN 14042.

BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
Tight fitting protective goggles (EN 166) with side protection, with danger of splashes.

Skin protection - Hand protection:
Chemical resistant protective gloves (EN 374).
If applicable
Protective PVC gloves (EN 374)
Protective nitrile gloves (EN 374).
Protective Neoprene® / polychloroprene gloves (EN 374).
Minimum layer thickness in mm:
0,5
Permeation time (penetration time) in minutes:
>= 240
The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time.
Protective hand cream recommended.

Skin protection - Other:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
If OES or MEL is exceeded.
Filter A P2 (EN 14387), code colour brown, white
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls
No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Brown</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not determined</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>&gt;=-24 °C (ASTM D 97)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt;280 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>275 °C (ASTM D 92 (Cleveland, open cup))</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>n.a.</td>
</tr>
<tr>
<td>Lower explosive limit</td>
<td>1 Vol-%</td>
</tr>
<tr>
<td>Upper explosive limit</td>
<td>10 Vol-%</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt;0.5 Pa (20°C)</td>
</tr>
<tr>
<td>Vapour density (air = 1)</td>
<td>&gt;1 (Vapours heavier than air.)</td>
</tr>
</tbody>
</table>
SECTION 10: Stability and reactivity

10.1 Reactivity
The product has not been tested.
Not to be expected

10.2 Chemical stability
Stable with proper storage and handling.

10.3 Possibility of hazardous reactions
No dangerous reactions are known.

10.4 Conditions to avoid
Protect from direct sunlight and warming.
Strong heat

10.5 Incompatible materials
Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products
No decomposition when used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Possibly more information on health effects, see Section 2.1 (classification).

<table>
<thead>
<tr>
<th>VS 220</th>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acute toxicity, by oral route:</td>
<td>LD50</td>
<td>&gt;5000</td>
<td>mg/kg</td>
<td>Rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute toxicity, by dermal route:</td>
<td>LD50</td>
<td>&gt;5000</td>
<td>mg/kg</td>
<td>Rabbit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute toxicity, by inhalation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin corrosion/irritation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n.d.a.</td>
</tr>
<tr>
<td></td>
<td>Serious eye damage/irritation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n.d.a.</td>
</tr>
<tr>
<td></td>
<td>Respiratory or skin sensitisation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n.d.a.</td>
</tr>
<tr>
<td></td>
<td>Germ cell mutagenicity:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n.d.a.</td>
</tr>
<tr>
<td></td>
<td>Reproductive toxicity:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n.d.a.</td>
</tr>
</tbody>
</table>

Acute toxicity, by oral route:
LD50 >5000 mg/kg Rat
Acute toxicity, by dermal route:
LD50 >5000 mg/kg Rabbit
Acute toxicity, by inhalation:
LD50 >5000 mg/kg
Skin corrosion/irritation:
LD50 >5000 mg/kg
Serious eye damage/irritation:
LD50 >5000 mg/kg
Respiratory or skin sensitisation:
LD50 >5000 mg/kg
Germ cell mutagenicity:
LD50 >5000 mg/kg
Reproductive toxicity:
LD50 >5000 mg/kg
Specific target organ toxicity - single exposure (STOT-SE):
LD50 >5000 mg/kg
section 12: ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

<table>
<thead>
<tr>
<th>VS 220</th>
<th>Toxicity / Effect</th>
<th>Endpoint</th>
<th>Time</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test Method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1</td>
<td>Toxicity to fish:</td>
<td></td>
<td></td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1.</td>
<td>Toxicity to</td>
<td></td>
<td></td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>daphnia:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1.</td>
<td>Toxicity to</td>
<td></td>
<td></td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>algae:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.2</td>
<td>Persistence and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>degradability:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.3</td>
<td>Bioaccumulative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>potential:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.4</td>
<td>Mobility in soil:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.5</td>
<td>Results of PBT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and vPvB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.6</td>
<td>Other adverse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>effects:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

section 13: disposal considerations

13.1 Waste treatment methods
Soaked polluted cloths, paper or other organic materials represent a fire hazard and should be controlled, collected and disposed of.

For the substance / mixture / residual amounts
EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
13 02 06 synthetic engine, gear and lubricating oils
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
Recycling
Waste disposal procedure:
E.g. suitable incineration plant.
For contaminated packing material
Pay attention to local and national official regulations.
Empty container completely.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.
Do not perforate, cut up or weld uncleaned container.
Residues may present a risk of explosion.

section 14: transport information

General statements
14.1. UN number: n.a.
Transport by road/by rail (ADR/RID)
14.2. UN proper shipping name: n.a.
14.3. Transport hazard class(es): n.a.
14.4. Packing group: n.a.
Classification code: n.a.
LQ: n.a.
14.5. Environmental hazards: Not applicable
Tunnel restriction code:

Transport by sea (IMDG-code)
14.2. UN proper shipping name: n.a.
14.3. Transport hazard class(es): n.a.
14.4. Packing group: n.a.
Marine Pollutant: n.a
14.5. Environmental hazards: Not applicable

Transport by air (IATA)
14.2. UN proper shipping name: n.a.
14.3. Transport hazard class(es): n.a.
14.4. Packing group: n.a.
14.5. Environmental hazards: Not applicable

14.6. Special precautions for user
Unless specified otherwise, general measures for safe transport must be followed.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Non-dangerous material according to Transport Regulations.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Observe restrictions:
General hygiene measures for the handling of chemicals are applicable.
Directive 2010/75/EU (VOC): 0 %

15.2 Chemical safety assessment
A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: n.a.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):
Not applicable

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

Any abbreviations and acronyms used in this document:

AC Article Categories
acc., acc. to according, according to
ACGIHAmerican Conference of Governmental Industrial Hygienists
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
ACEL Acceptable Operator Exposure Level
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
VS 220

BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)

BCF Bioconcentration factor

BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)

BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)

BMGV Biological monitoring guidance value (EH40, UK)

BOD Biochemical oxygen demand

BSEF Bromine Science and Environmental Forum

bw body weight

CAS Chemical Abstracts Service

CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids

CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques

CIPAC Collaborative International Pesticides Analytical Council

CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)

CMR carcinogenic, mutagenic, reproductive toxic

COD Chemical oxygen demand

CTFA Cosmetic, Toiletry, and Fragrance Association

DMEL Derived Minimum Effect Level

DNEL Derived No Effect Level

DOC Dissolved organic carbon

DT50 Dwell Time - 50% reduction of start concentration

DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)

dw dry weight

e.g. for example (abbreviation of Latin 'exempli gratia'), for instance

EC European Community

ECHA European Chemicals Agency

EAA European Economic Area

ECE European Economic Community

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

EN European Norms

EPA United States Environmental Protection Agency (United States of America)

ERC Environmental Release Categories

ES Exposure scenario

et et cetera

EU European Union

EWC European Waste Catalogue

Fax. Fax number

general

generation

GHS Globally Harmonized System of Classification and Labelling of Chemicals

GWP Global warming potential

HET-CAM Hen's Egg Test - Chorioallantoic Membrane

HGWP Halocarbon Global Warming Potential

IARC International Agency for Research on Cancer

IATA International Air Transport Association

IBC Intermediate Bulk Container

IBC (Code) International Bulk Chemical (Code)

IC Inhibitory concentration

IMDG-code International Maritime Code for Dangerous Goods

incl. including, inclusive

IUCLID International Uniform Chemical Information Database

LC lethal concentration

LC50 lethal concentration 50 percent kill

LCLo lowest published lethal concentration

LD Lethal Dose of a chemical

LD50 Lethal Dose, 50% kill

LDLo Lethal Dose Low

LOAEL Lowest Observed Adverse Effect Level

LOEC Lowest Observed Effect Concentration

LOEL Lowest Observed Effect Level

LQ Limited Quantities

MARPOL International Convention for the Prevention of Marine Pollution from Ships
The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:
**Chemical Check GmbH, Chemical Check Platz 1-7, D-32839 Steinheim, Tel.: +49 5233 94 17 0, Fax: +49 5233 94 17 90**

© by Chemical Check GmbH Gefahrstoffberatung. The copying or changing of this document is forbidden except with consent of the Chemical Check GmbH Gefahrstoffberatung.