Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Seizer 100 EC

Synonyms
Bifenthrin 100 EC

Pure substance/mixture
Mixture

Formula
EC

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

Recommended Use
Insecticide

Uses advised against
No information available

Details of the supplier of the safety data sheet

Supplier Address
ADAMA SOUTH AFRICA (PTY) LTD
Ground Floor, Simeka House
The Vineyards Office Estate
99 Jip de Jager Drive
Bellville 7530

For further information, please contact

Email address
SDS@ADAMA.COM

Emergency Telephone
+ 27 82 446 8946
+ 27 86 155 5777
+ 27 21 982 1460

Section 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Aspiration toxicity
Category 1 - (H304)

Acute toxicity - Oral
Category 4 - (H302)

Skin corrosion/irritation
Category 2 - (H315)

Serious eye damage/eye irritation
Category 1 - (H318)

Specific target organ toxicity (single exposure)
Category 3 - (H336)

Specific target organ toxicity (repeated exposure)
Category 2 - (H373)

Acute aquatic toxicity
Category 1 - (H400)

Chronic aquatic toxicity
Category 1 - (H410)
Seizer 100 EC - INS00165-27 Revision Date 25-Sep-2020

Flammable liquids Category 4 - (H227)

Label Elements

Hazard pictograms

Signal word Danger

Hazard Statements

H227 - Combustible liquid
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H318 - Causes serious eye damage
H336 - May cause drowsiness or dizziness
H373 - May cause damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements

P102 - Keep out of reach of children
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P243 - Take precautionary measures against static discharge
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves and eye/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P331 - Do NOT induce vomiting
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P501 - Dispose of contents/container to an approved waste disposal plant

Other Hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Weight-%</th>
<th>CAS No</th>
<th>EC No</th>
<th>GHS Classification</th>
<th>M-Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenthrin</td>
<td>9-12</td>
<td>82657-04-3</td>
<td></td>
<td>Acute Tox. 3 (H301)</td>
<td>[M=10000]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H331)</td>
<td>[M=100000]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT RE 2 (H373)</td>
<td>[M=10000]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1 (H400)</td>
<td>[M=10000]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1 (H410)</td>
<td>[M=10000]</td>
</tr>
<tr>
<td>Solvent naphtha, petroleum, heavy arom.</td>
<td>76-85</td>
<td>64742-94-5</td>
<td>265-198-5</td>
<td>Asp. Tox. 1 (H304)</td>
<td>[M=10000]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3 (H336)</td>
<td>[M=10000]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 2 (H411)</td>
<td>[M=10000]</td>
</tr>
<tr>
<td>Benzenesulfonic acid, C10-13-(linear)alkyl derivs., calcium salt</td>
<td>2-4</td>
<td>N/A</td>
<td>932-231-6</td>
<td>Skin Irrit. 2 (H315)</td>
<td>[M=10000]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1 (H318)</td>
<td>[M=10000]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 3 (H412)</td>
<td>[M=10000]</td>
</tr>
<tr>
<td>2-Ethylhexan-1-ol</td>
<td>1-3</td>
<td>104-76-7</td>
<td>203-234-3</td>
<td>Acute Tox. 4 (H332)</td>
<td>[M=10000]</td>
</tr>
</tbody>
</table>
Section 4: FIRST AID MEASURES

First aid measures

General advice
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aider: Pay attention to self-protection!

Inhalation
Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Ingestion
Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.

Self-protection of the first aider
Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms
None known.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

Section 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
No information available.

Special hazards arising from the substance or mixture
Combustible material.

Advice for firefighters
In the event of fire, wear self-contained breathing apparatus
In the event of fire and/or explosion do not breathe fumes.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Personal precautions
Use personal protective equipment as required.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions
Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for cleaning up
Take up mechanically, placing in appropriate containers for disposal.

Reference to other sections

Other Information
See also section 8,13

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Specific end use(s)

Risk Management Methods (RMM)
The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

National occupational exposure limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>European Union</th>
<th>United Kingdom</th>
<th>France</th>
<th>Spain</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethylhexan-1-ol 104-76-7</td>
<td>TWA: 10 ppm TWA: 54 mg/m³ Ceiling / Peak: 10 ppm Ceiling / Peak: 54 mg/m³</td>
<td>TWA: 20 ppm TWA: 110 mg/m³</td>
<td>TWA: 20 ppm TWA: 110 mg/m³</td>
<td>TWA: 110 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Austria</th>
<th>Switzerland</th>
<th>Poland</th>
<th>Norway</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethylhexan-1-ol 104-76-7</td>
<td>Skin STEL 100 ppm STEL 540 mg/m³ TWA: 50 ppm TWA: 270 mg/m³</td>
<td>STEL: 20 ppm STEL: 110 mg/m³ TWA: 20 ppm TWA: 110 mg/m³</td>
<td>STEL: 320 mg/m³ TWA: 160 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Exposure controls

Engineering Controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Hand Protection
Suitable chemical resistant gloves (EN 374) also with prolonged, direct contact (recommendation: protection index 6, corresponding > 480 minutes Permeability time (permeation) according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm).

Body Protection
Use suitable protective clothing and equipment if required, such as safety goggles certified to EN 166, gloves certified to EN 374, protective boots certified to EN 13832, and/or a water repellent woven coverall with 65% polyester and 35 % cotton.

Respiratory protection
Use only with adequate ventilation.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

Environmental exposure controls
Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>clear Yellowish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>chemical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>5.2 - 6.2</td>
<td>solution (1 %)</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point °C</td>
<td>No data available</td>
<td></td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Boiling point/boiling range °C</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point °C</td>
<td>67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>-</td>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable for liquids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure kPa</td>
<td>No data available</td>
<td></td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>0.88 - 0.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility(ies) mg/l</td>
<td>No data available</td>
<td></td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water) Log Pow</td>
<td></td>
<td></td>
<td>See Section 12 for more information</td>
</tr>
<tr>
<td>Autoignition temperature °C</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature °C</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity mm2/s 40 °C</td>
<td>1.86</td>
<td></td>
<td>20°C</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulk density g/ml</td>
<td></td>
<td></td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Surface tension mN/m</td>
<td>-</td>
<td></td>
<td>No data available</td>
</tr>
</tbody>
</table>

Section 10: STABILITY AND REACTIVITY
Reactivity
Not available.

Chemical stability
Stable under normal conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible Materials
No information available

Hazardous Decomposition Products
None under normal use conditions.

Section 11: TOXICOLOGY INFORMATION

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Values</th>
<th>Species</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50 mg/kg</td>
<td>300 - 2000</td>
<td>Rat</td>
<td>OECD 423</td>
</tr>
<tr>
<td>Dermal LD50 mg/kg</td>
<td>&gt; 4000</td>
<td>Rat</td>
<td>OECD 402</td>
</tr>
<tr>
<td>Inhalation LC50 mg/l/4h</td>
<td>&gt; 5.25</td>
<td>Rat</td>
<td>OECD 403</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Irritating to skin</td>
<td>Rabbit</td>
<td>OECD 404</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Serious eye damage/eye irritation</td>
<td>Rabbit</td>
<td>OECD 405</td>
</tr>
<tr>
<td>Respiratory/skin sensitization</td>
<td>Not a skin sensitizer</td>
<td>Guinea pig</td>
<td>OECD 406</td>
</tr>
</tbody>
</table>

Chronic toxicity

Germ cell mutagenicity
Chemical Name
Bifenthrin : Not classified

Carcinogenicity
Chemical Name
Bifenthrin : Not classified

Reproductive toxicity
Chemical Name
Bifenthrin : Not classified

STOT - single exposure
Chemical Name
Bifenthrin : No data available

STOT - repeated exposure
Chemical Name
Bifenthrin : No data available

Aspiration hazard
Chemical Name
Bifenthrin : No data available

Section 12: ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity

Acute toxicity

<table>
<thead>
<tr>
<th>Values</th>
<th>Species</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish 96-hour LC50 mg/l</td>
<td>0.031</td>
<td>Poecilia reticulata</td>
<td>OECD 203</td>
</tr>
<tr>
<td>Crustacea 48-hour EC50 mg/l</td>
<td></td>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>Algae 72-hour EC50 mg/l</td>
<td></td>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>Other plants EC50 mg/l</td>
<td></td>
<td></td>
<td>No data available</td>
</tr>
</tbody>
</table>

Chronic aquatic toxicity

<table>
<thead>
<tr>
<th>Values</th>
<th>Species</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish NOEC mg/l</td>
<td></td>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>Crustacea NOEC mg/l</td>
<td></td>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>Algae NOEC mg/l</td>
<td></td>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>Other plants NOEC mg/l</td>
<td></td>
<td></td>
<td>No data available</td>
</tr>
</tbody>
</table>

Terrestrial Toxicity

Birds Oral LD50 mg/kg

Chemical Name
Bifenthrin : 1800 Bobwhite quail EPA-OPPTS 850.2100

Bees Oral LD50 μg/bee

Chemical Name
Bifenthrin : 0.39 OECD 213, OECD 214

Persistence and degradability

Abiotic Degradation

<table>
<thead>
<tr>
<th>Values</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water DT50 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bifenthrin</td>
<td>161.1</td>
<td></td>
</tr>
</tbody>
</table>

Soil DT50 days

Chemical Name
Bifenthrin : 86.8 Field

Biodegradation

Chemical Name
Bifenthrin : No data available

Bioaccumulative potential

Partition Coefficient (n-octanol/water) Partition Coefficient (n-octanol/water) Log Pow

Chemical Name
Bifenthrin : > 6.71 OECD 107

Bioconcentration factor (BCF)

Chemical Name
Bifenthrin : 417 OECD 305

Mobility in soil
Chemical Name
Bifenthrin : 236,610
KOC, Not mobile

Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB

Other adverse effects

No information available.

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging
Improper disposal or reuse of this container may be dangerous and illegal.

Other Information
Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORTATION INFORMATION

IMDG/IMO
UN/ID No * 3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bifenthrin)
Hazard Class 9
Packing Group III
Marine pollutant Yes

RID/ADR
UN/ID No * 3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bifenthrin)
Hazard Class 9
Packing Group III
Environmental hazard Yes

ICAO/IATA
UN/ID No * 3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bifenthrin)
Hazard Class 9
Packing Group III
Environmental hazard Yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not Applicable
Section 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Section 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H227 - Combustible liquid
H302 - Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H331 - Toxic if inhaled
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H373 - May cause damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects

Revision Note

Changes made to the last version are labeled with this sign ***.

List of Acronyms
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CAS Number - Chemical Abstracts Service number
EC Number - EINECS and ELINCS Number
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
LC50 - Lethal Concentration to 50% of a test population
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
OECD - Organization for Economic Co-operation and Development
PBT - Persistent, Bioaccumulative and Toxic substance
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
STOT - Specific Target Organ Toxicity
vPvB - Very Persistent and Very Bioaccumulative

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet