

## Seeflex 040E & 020E

### 1. IDENTIFICATION OF THE SUBSTANCE & DATA SHEET SUPPLIER:

**Product Name:** Seeflex 040E & 020E  
**Material Number:** 10105 (040E) & 10106 (020E)  
**Chemical Family:** Aromatic thermoplastic polyurethane  
**Chemical Name:** Polyurethane elastomer  
**Supplier:** BFM® Global Ltd  
 P O Box 66-087, Beachhaven, Auckland 0749, New Zealand

### 2. HAZARDS IDENTIFICATION:

#### 2.1 Classification of the substance or mixture

No classification in accordance with the Regulation (EC) No. 1272/2008.

#### 2.2 Label elements

No labeling necessary according to the Regulation (EC) No. 1272/2008.

#### 2.3 Other hazards

No information available.

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS:

**Type of product:** Mixture

#### 3.2 Mixtures

Thermoplastic polyurethane

No dangerous ingredients according to REACH-Regulation (EC) No. 1907/2006.

#### Candidate List of Substances of Very High Concern for Authorisation

This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

### 4. FIRST AID MEASURES:

#### 4.1 Description of first aid measures

**In case of skin contact:** CONTACT WITH THE HOT MELT: Cool immediately with plenty of water. Do not remove product crusts which may have formed neither forcibly nor by applying any solvents to the skin involved. To obtain treatment for possible burns, and appropriate skin care, seek medical advice immediately.

The following information refers to the handling of the product at room temperature. In case of skin contact wash affected areas thoroughly with soap and plenty of water.

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

Notes to physician: No information available.

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

Therapeutic measures: No information available.

### 5. FIRE-FIGHTING MEASURES:

#### 5.1 Extinguishing media

Suitable extinguishing media: Water, Foam, Dry chemical

#### 5.2 Special hazards arising from the substance or mixture

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

#### 5.3 Advice for fire-fighters

Firemen must wear self-contained breathing apparatus.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

## 6. ACCIDENTAL RELEASE MEASURES:

### 6.1 Personal precautions, protective equipment and emergency procedures

Put on protective equipment (see section 8). Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

### 6.2 Environment related measures

Do not flush into surface water or sanitary sewer system.

### 6.3 Methods and material for containment and cleaning up

Use mechanical handling equipment. Avoid dust formation. Sweep up and shovel into suitable containers for disposal.

### 6.4 Reference to other sections

For further disposal measures see section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Provided good ventilation and/or local exhaust systems are used, the Workplace Exposure Limit(s) stated in section 8 should not be exceeded. In case of mechanical processing, dust must be removed by effective exhaust ventilation.

Wash hands and face before breaks and at the end of work. Keep working clothes separately. Change contaminated clothing.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep in a dry room away from UV light.

Storage class (TRGS 510) : 11: Combustible Solids

Storage temperature: < 40 °C

### 7.3 Specific end use(s)

No information available.

## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION:

### 8.1 Control parameters

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures. In our experience the provision of effective fresh-air and exhaust ventilation equipment at the points where vapors may be generated will ensure compliance with the tolerance limits quoted below.

| SUBSTANCE                      | CAS-NO. | BASIS    | TYPE    | VALUE                | CEILING LIMIT VALUE | REMARKS   |
|--------------------------------|---------|----------|---------|----------------------|---------------------|---|
| General limiting value of dust |         | TRGS 900 |         | 10 mg/m <sup>3</sup> | 2                   | inhalable fraction                                |
| General limiting value of dust |         | TRGS 900 |         | 3 mg/m <sup>3</sup>  | 2                   | alveolar fraction                                 |
| General limiting value of dust |         | TRGS 900 | STEL CL |                      |                     | Category II: substances with a resorptive effect. |

### 8.2 Exposure controls

#### Respiratory protection

In case of dust formation use respiratory equipment with filter type particle filter P1 according to EN 143.

### Hand protection

Suitable materials for safety gloves; EN 374:  
Polyvinyl chloride - PVC ( $\geq 0.5$  mm)  
Contaminated and/or damaged gloves must be changed.

### Eye protection

Wear eye/face protection.

### Skin and body protection

Wear suitable protective clothing.

### Further protective measures

Do not breathe dust/vapor. Grease skin.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

### 9.1 Information on basic physical and chemical properties

|   |                               |
|---|-------------------------------|
| Appearance:                                   | semi-clear                    |
| Colour:                                       | semi-clear                    |
| Odour:  | almost odourless              |
| pH:   | not applicable                |
| Softening point:                              | $> 120$ °C                    |
| Upper/lower flammability or explosive limits: | not applicable                |
| Vapour pressure:                              | not applicable                |
| Density:                                      | ca. $1,2$ g/cm <sup>3</sup>   |
| Bulk density:                                 | $500 - 700$ kg/m <sup>3</sup> |
| Water solubility:                             | practically insoluble         |
| Auto-ignition temperature:                    | not applicable                |
| Ignition temperature:                         | $> 210$ °C                    |
| Viscosity, dynamic:                           | not applicable                |

### 9.2 Other information

The indicated values do not necessarily correspond to the product specification. Please refer to the product information sheet or the technical information sheet for specification data.

## 10. STABILITY AND REACTIVITY:

### 10.1 Reactivity

This information is not available.

### 10.2 Chemical stability

Decomposition begins at  $230$  °C.

### 10.3 Possibility of hazardous reactions

No hazardous reactions observed.

### 10.4 Conditions to avoid

This information is not available.

### 10.5 Incompatible materials

This information is not available.

### 10.6 Hazardous decomposition products

Smouldering or incomplete combustion leads to the formation of toxic gas mixtures consisting mainly of CO, CO<sub>2</sub> and nitrogen oxides.

Under recommended processing conditions small amounts of isocyanates may be emitted. Exceeding the recommended processing temperatures leads to a significant increase in the amount of isocyanate vapor generated.

Over-exposure entails a risk of concentration-dependent inhalatory irritation and/or sensitization by isocyanates (delayed appearance of difficult breathing, coughing, asthma is possible).

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures.

Isocyanates (all, as -NCO)

## 11. TOXICOLOGICAL INFORMATION:

Toxicological studies on the product are not yet available.

Please find below the data available to us:

### 11.1 Information on toxicological effects

#### Acute toxicity, oral

Thermoplastic polyurethane  
LD50 rat: > 5.000 mg/kg  
Method: OECD Test Guideline 423  
Studies of a comparable product.

#### Acute toxicity, dermal

Thermoplastic polyurethane  
LD50 rat: > 2.000 mg/kg  
Studies of a comparable product.

#### Acute toxicity, inhalation

Thermoplastic polyurethane  
Assessment: The substance or mixture has no acute inhalation toxicity  
Studies of a comparable product.

#### Primary skin irritation

Thermoplastic polyurethane  
Species: rabbit  
Result: non-irritant  
Classification: No skin irritation  
Method: OECD Test Guideline 404  
Studies of a comparable product.

#### Primary mucosae irritation

Thermoplastic polyurethane  
Species: rabbit  
Result: non-irritant  
Classification: No eye irritation  
Studies of a comparable product.

#### Sensitisation

Thermoplastic polyurethane  
Skin sensitisation according to Magnusson/Kligmann (maximizing test):  
Species: Guinea pig  
Result: negative  
Classification: Does not cause skin sensitization.  
Method: OECD Test Guideline 406  
Studies of a comparable product.

#### Subacute, subchronic and prolonged toxicity

Thermoplastic polyurethane  
No data available.

#### Carcinogenicity

Thermoplastic polyurethane  
No data available.

**Reproductive toxicity/Fertility**

Thermoplastic polyurethane  
No data available.

**Reproductive toxicity/Teratogenicity**

Thermoplastic polyurethane  
No data available.

**Genotoxicity in vitro**

Thermoplastic polyurethane  
Test type: Salmonella/microsome test (Ames test)  
Result: No indication of mutagenic effects.  
Method: OECD Test Guideline 471  
Studies of a comparable product.

**Genotoxicity in vivo**

Thermoplastic polyurethane  
No data available.

**STOT evaluation – one-time exposure**

Thermoplastic polyurethane  
Based on available data, the classification criteria are not met.

**STOT evaluation – repeated exposure**

Thermoplastic polyurethane  
no data available

**Aspiration toxicity**

Thermoplastic polyurethane  
No data available.

**CMR Assessment**

Thermoplastic polyurethane  
Carcinogenicity: No data available.  
Mutagenicity: Based on available data, the classification criteria are not met.  
Teratogenicity: No data available.  
Reproductive toxicity/Fertility: No data available.

**12. ECOLOGICAL INFORMATION:**

Ecotoxicological studies of the product are not available.  
Do not allow to escape into waterways, wastewater or soil.  
Please find below the data available to us:

**12.1 Toxicity**

**Acute Fish toxicity**

Thermoplastic polyurethane  
EC50 > 100 mg/l  
Species: Danio rerio (zebra fish)  
Exposure duration: 96 h  
Method: Tested according to Directive 92/69/EEC.  
Studies of a comparable product.

**Chronic Fish toxicity**

Thermoplastic polyurethane  
No data available.

**Acute toxicity for daphnia**

Thermoplastic polyurethane  
EC50 > 100 mg/l

Species: Daphnia magna (Water flea)  
Exposure duration: 48 h  
Method: Tested according to Directive 92/69/EEC.  
Studies of a comparable product.

**Chronic toxicity to daphnia**

Thermoplastic polyurethane  
No data available.

**Acute toxicity for algae**

Thermoplastic polyurethane  
Endpoint: Growth inhibition  
Species: scenedesmus subspicatus  
Exposure duration: 72 h  
Method: OECD Test Guideline 201  
No toxic effects with saturated solution.  
Studies of a comparable product.

**Acute bacterial toxicity**

Thermoplastic polyurethane  
EC50 > 10.000 mg/l  
Test type: Respiration inhibition  
Species: activated sludge  
Exposure duration: 3 h  
Method: OECD Test Guideline 209  
Studies of a comparable product.

**12.2 Persistence and degradability****Biodegradability**

Thermoplastic polyurethane  
Biodegradation: 1%, 28 d, i.e. not readily degradable  
Method: Tested according to Directive 92/69/EEC.  
Studies of a comparable product.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Other adverse effects**

The product does not add to the AOX-value of effluent water (DIN 38409).

**13. DISPOSAL  
CONSIDERATIONS:**

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

**13.1 Waste treatment methods**

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.  
The product is suitable for mechanical recycling. After appropriate treatment it can be remelted and reprocessed into new moulded articles. Mechanical recycling is only possible if the material has been selectively retrieved and carefully segregated according to type.

## 14. TRANSPORT INFORMATION:

### ADR/RID

14.1 UN number : Not dangerous goods  
 14.2 UN proper shipping name : Not dangerous goods  
 14.3 Transport hazard class(es) : Not dangerous goods  
 14.4 Packing group : Not dangerous goods  
 14.5 Environmental hazards : Not dangerous goods

### ADN

14.1 UN number : Not dangerous goods  
 14.2 UN proper shipping name : Not dangerous goods  
 14.3 Transport hazard class(es) : Not dangerous goods  
 14.4 Packing group : Not dangerous goods  
 14.5 Environmental hazards : Not dangerous goods

### IATA

14.1 UN number : Not dangerous goods  
 14.2 UN proper shipping name : Not dangerous goods  
 14.3 Transport hazard class(es) : Not dangerous goods  
 14.4 Packing group : Not dangerous goods  
 14.5 Environmental hazards : Not dangerous goods

### IMDG

14.1 UN number : Not dangerous goods  
 14.2 UN proper shipping name : Not dangerous goods  
 14.3 Transport hazard class(es) : Not dangerous goods  
 14.4 Packing group : Not dangerous goods  
 14.5 Environmental hazards : Not dangerous goods

### 14.6 Special precautions for user

See section 6 - 8.

Additional information : Not dangerous cargo.  
 Slight smell. Keep dry.

### 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

## 15. REGULATORY INFORMATION:

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

#### Water contaminating class (Germany)

nw not water endangering

(in accordance with Annex 1 to the Directive on Water-Hazardous Substances)

#### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been conducted for this substance / mixture resp. its components.

## 16. OTHER INFORMATION:

### Further information

The information provided in this 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.