1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name: BITUMAC
Product description: Plastomeric bituminous mastic cold-applied
REACH registration number: Mixture (registration is not required according to REACH regulation, 1907/2006/EC)

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

Intended use: Sealing expansion joints in roofs, walls. Sealing of specific items such as gutters, corners. It must be used only for professional use.

1.3 Details of the supplier of the safety data sheet

BITUMIX S.A.
PRODUCTION OF BITUMINOUS MIXTURES
K. KARAMANLI 124, IONIA THESSALONIKIS
P.O.Box: 1715, 57008 IONIA THESSALONIKIS
TEL: (0030)2310 710017
FAX: (0030)2310 710016
e-mail: info@bitumix.gr

1.4 Emergency telephone number

National Chemical Emergency Centre (24h): +44 (0) 1235 239 670

2. Hazards identification

2.1 Classification of the substance or mixture

The product is not classified as hazardous according to Regulation 1272/2008 / EC (CLP) and subsequent amendments.

Classification according to Regulation 1272/2008 (CLP) and following amendments and adjustments

Hazard classification and indication:

Aquatic Chronic 4     H413

2.2 Label elements

Hazard labeling according to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms: No classification
Signal words: No classification
Hazard statements:
H413: May cause long lasting harmful effects to aquatic life

Precautionary statements:
P273: Avoid release to the environment.
P280: Wear protective gloves / protective clothing / eye protection / face protection.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
Contains: Toluene

2.3 Other hazards

Information not available
3. Composition/information on ingredients

3.1 Substances
The product is mixture

3.2 Mixtures
It contains the following hazardous substances:

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Percent %</th>
<th>REACH registration number</th>
<th>CAS number</th>
<th>EC number</th>
<th>Classification 1272/2008 (CLP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>0-5</td>
<td>01-2119471310-51-0010</td>
<td>108-88-3</td>
<td>203-625-9</td>
<td>Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336</td>
</tr>
<tr>
<td>White Spirit</td>
<td>10-15</td>
<td>01-2119458049-33-0007</td>
<td>64742-82-1</td>
<td>919-446-0</td>
<td>Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 2 H411,</td>
</tr>
</tbody>
</table>

4. First aid measures

4.1 General information
After inhalation: Remove patient to fresh air and seek medical attention. In case of unconsciousness, place patient stably in side position for transportation.
After skin contact: Remove contaminated clothing. Wash skin with soap and water.
After eye contact: Wash immediately eyes with plenty of water for a long time keeping the eyelids open and seek medical attention.
After swallowing: Rinse mouth immediately and then drink plenty of water. Consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5. Firefighting measures

5.1 Extinguishing media
Suitable: CO₂, dry chemical powder, sand, foam
Unsuitable for safety reasons: Water with full jet, water spray

5.2 Special hazards arising from the substance or mixture
The product has a flash point greater than 80oC. In case of incomplete burning may be formed CO, H₂S, SO₂ and other harmful compounds.

5.3 Advice for fire-fighters
Special protective equipment:
Fireproof suit with helmet (EN 469, 533, 1486) and self breathing apparatus (EN 137)

Additional information:
Remove the product packaging and other flammable materials away from the fire and if it is required, cool the
packaging’s outside with water. Contaminated water and residues from the fire are collected separately and disposed of in accordance with local regulation. It must not enter the sewage system.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid contact with spilled material. Remove all the contaminated clothes. Use the appropriate means of body protection (see section 8). Don’t breathe vapours of product.

6.2 Environmental precautions
Avoid water and ground contamination. Do not allow to enter sewers and water surfaces.

6.3 Methods and material for containment and cleaning up
Limit the spread of the material forming protective barriers with sand or sawdust. Collect as much product as you can in a clean container for reuse (by preference) or dispose of as hazardous waste. Cover the rest product with some inert material or powder for disposal. In case of water contamination inform immediately the local authorities for the restriction of the damage. Dispose contaminated materials as hazardous waste according to item 13.

6.4 Reference to other sections
See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7. Handling and storage

7.1 Precautions for safe handling
Avoid contact with eyes and skin. Do not breathe its vapors. Don’t eat, drink or smoke while handling the material. Use appropriate means of body protection (gloves, overalls, shoes). Apply all rules of personal hygiene after each use. Avoid leakage of the product into the environment.

7.2 Conditions for safe storage, including any incompatibilities
Store in covered areas at room temperature away from ignition sources. Application temperature between 5°C and 40°C. Keep containers properly sealed and the content away from non-compatible materials, see section 10.

7.3 Specific end use(s)
No further relevant information available.

8. Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>ACGIH-TLV(3/2012) TWA</th>
<th>NIOSH REL (1/2013) TWA</th>
<th>NIOSH REL (1/2013) STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>20ppm η 75mg/m3, 8h</td>
<td>100ppm η 375mg/m3, 10h</td>
<td>150ppm η 560mg/m3, 15m</td>
</tr>
<tr>
<td>White spirit</td>
<td>100ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bitumen fumes (&gt;120°C)</td>
<td>0,5mg/m3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed. Wash hands and face before breaks and at the end of work.

Respiratory protection:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure, use self-contained respiratory protective device (EN 140, 141).

Protection of hands:
Wear suitable gloves (EN 374). The glove material has to be impermeable and resistant to the product. Selection of
the glove material on consideration of the penetration times, rates of diffusion and the degradation (nitrile rubber, chloroprene rubber, PVC). The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. For this reason the suitability of gloves should be checked before use.

Eye protection:
Wear safety glasses (EN 166).

Body protection:
Wear category II professional long-sleeved overalls and safety footwear (EN 340, 365, 466, 467). In case of release wear PVC apron (EN 345).

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>Appearance</td>
<td>High viscosity paste</td>
</tr>
<tr>
<td>Colour</td>
<td>Black</td>
</tr>
<tr>
<td>Odour</td>
<td>Like organic solvents</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not determined</td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt;80°C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Self-igniting</td>
<td>Not determined</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Product is not explosive. However, formation of explosive air/vapour mixtures are possible.</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Density at 25°C</td>
<td>1,05 – 1,20 gr/cm3</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Segregation coefficient (n-octanol/water):</td>
<td>Not determined</td>
</tr>
<tr>
<td>Dynamic viscosity at 25°C</td>
<td>&gt;100.000cP</td>
</tr>
</tbody>
</table>

9.2 Other information
Content of V.O.C: Max value V.O.C: 200gr/Lt

10. Stability and reactivity

10.1 Reactivity
There are no particular risks of reaction with other substances in normal conditions of storage and use.

10.2 Chemical stability
The product is stable in normal conditions of use and storage. It does not decompose when it is stored and is handled properly and is not polymerised.

10.3 Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid
Avoid contact with strong oxidizing agents, strong acids and bases.

10.5 Incompatible materials
Oxidising substances, acids and bases.

10.6 Hazardous decomposition products
In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

11. Toxicological information

Acute toxicity:

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>636mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>8390mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation</td>
<td>Rat</td>
<td>12,5mg/l</td>
<td></td>
</tr>
<tr>
<td>White spirit</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;15000mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;3400mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation</td>
<td>Rat</td>
<td>&gt;5,5mg/l</td>
<td>4 h</td>
</tr>
<tr>
<td>Bitumen</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000mg/kg</td>
<td>14 days</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;2000mg/kg</td>
<td>14 days</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation</td>
<td>Rat</td>
<td>&gt;94,4mg/m3</td>
<td>4,5h -14 days</td>
</tr>
</tbody>
</table>

Corrosion/Irritation: In case of contact can irritate skin.

Sensitization respiratory or skin: Not available.

Mutagenicity: Not available.

Carcinogenicity: Not available.

Reproductive toxicity: Not available.

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>Category 3</td>
<td>Inhalation</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>White spirit</td>
<td>Category 3</td>
<td>Inhalation</td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>Category 2</td>
<td>Inhalation</td>
<td>Unspecified</td>
</tr>
</tbody>
</table>

Aspiration hazard
No classifications because the product has a viscosity greater than 20,5cSt at 40°C.

Potential acute health effects

Eye contact: May cause eye irritation.

Skin contact: May cause skin irritation.

Inhalation: May cause drowsiness or dizziness.

Ingestion: May cause serious problems in the airways and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Pain or irritation, redness.

Skin contact: Irritation, redness.

Inhalation: Headache, drowsiness, dizziness, nausea.
**Ingestion:** Nausea, puke.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure:**
Potential immediate effects: Not available.
Potential delayed effects: Not available.

**Long term exposure:**
Potential immediate effects: Not available.
Potential delayed effects: Not available.
Potential chronic health effects: Not available.

**Conclusion/Summary**

**General:** No known significant effects or critical hazards.

**Carcinogenicity:** No known significant effects or critical hazards.

**Mutagenicity:** No known significant effects or critical hazards.

**Fertility effects:** Suspected of damaging the unborn child or fertility in case of inhalation.

**Developmental effects:** No known significant effects or critical hazards.

**Other information:** No known significant effects or critical hazards.

12. Ecological information

It has greater density than water so it precipitated. Contamination of water with the product may cause long-term effects on aquatic organisms. In case of soil contamination the product remain on the soil surface and decomposed in present of oxygen

**12.1 Toxicity:**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>Acute EC50 12500 ug/l</td>
<td>Seaweed Pseudokirchneriella subcapitata</td>
<td>72h</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 &gt;433 ppm sea water</td>
<td>Seaweed Skeletonema costatum</td>
<td>96h</td>
</tr>
<tr>
<td>White spirit</td>
<td>Acute EC50 10-20mg/l</td>
<td>Daphnia magna</td>
<td>48h</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 10-30mg/l</td>
<td>Fish Oncorhynchus mykiss</td>
<td>96h</td>
</tr>
</tbody>
</table>

**12.2 Persistence and degradability:** Not available.

**12.3 Bioaccumulative potential:** Not available.

**12.4 Mobility in soil:** Not available.

**12.5 Results of PBT and vPvB assessment:** Not available.

**12.6 Other adverse effects:** Not available.

13. Disposal considerations

**13.1 Waste treatment methods**

Recovery and reuse of the product is preferred. If this is not possible, incinerate the material in suitable incineration plant in accordance with the law and the approval of local authorities. Product residues should be considered hazardous waste and must be treated according to current regulations. The same shall apply to the absorption materials accidental release of the product.

**Uncleaned packaging:**
The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

14. Transport information

Not classified as hazardous according to transport regulations ADR / RID, IMDG, IATA / ICAO
Road and Rail transport ADR/RID

UN number: 1133
UN proper shipping name: Adhesive, containing a flammable liquid
ADR/RID class: Not applicable
Packaging group: Not applicable
Environmental hazards: Yes
Special precautions for user: Not available.
Additional information: Not applicable

Maritime transport IMDG

UN number: 1133
UN proper shipping name: Adhesive, containing a flammable liquid
IMDG class: Not applicable
Packaging group: Not applicable
Environmental hazards: Yes
Special precautions for user: Not available.
Additional information: Not applicable

Air transport ICAO και IATA

UN number: 1133
UN proper shipping name: Adhesive, containing a flammable liquid
ICAO/IATA class: Not applicable
Packaging group: Not applicable
Environmental hazards: Yes
Special precautions for user: Not available.
Additional information: Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not Rated

15. Regulatory information

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

Category Seveso: Not applicable

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006: Product: point 3-40, Contained substance: point 48 Toluene

Substances in Candidate List (Art. 59 REACH): None

Substances subject to authorization (Annex XIV REACH): None

Substances subject to exportation reporting pursuant to (EC) Reg. 689/2008: None

Substances subject to the Rotterdam Convention: None

Substances subject to the Stockholm Convention: None

Healthcare controls: Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers’ health and safety are modest and that the 98/24/EC directive is respected.

15.2 Chemical safety assessment: No chemical safety assessment has been processed for the mixture and the substances it contains.

16. Other information

Text of hazard (H) indications and explanation of symbols mentioned in the previous paragraphs

Flam. Liq. 2  Flammable liquid, category 2
Flam. Liq. 3  Flammable liquid, category 3
Repr. 2  Reproductive toxicity, category 2
Asp. Tox. 1  Aspiration hazard, category 1
STOT Re 2  Specific target organ toxicity - repeated exposure, category 2
Skin Irrit. 2  Skin irritation, category 2
STOT SE 3  Specific target organ toxicity - single exposure, category 3
Aquatic Chronic 2  Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 4  Hazardous to the aquatic environment, chronic toxicity, category 4

H225  Highly flammable liquid and vapor.
H226  Flammable liquid and vapor.
H361d  Suspected of damaging the unborn child.
H304  May be fatal if swallowed and enters airways.
H373  May cause damage to organs through prolonged or repeated exposure.
H315  Causes skin irritation.
H336  May cause drowsiness or dizziness.
H411  Toxic to aquatic life with long lasting effects
H413  May cause long lasting harmful effects to aquatic life.
EUH066  Repeated exposure may cause skin dryness or cracking

- ACGIH: American Conference of Governmental Industrial Hygienists
- ADR: Agreement on dangerous goods by road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- ICSO: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- NIOSH: National Institute for Occupational Safety and Health
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- REL: Recommended Exposure Limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation.

Notice to reader:
The information contained in this SDS is based on our current knowledge and information gained by applicable
law. Any descriptions and data given herein may be changed without prior notice. Reported information is not a guarantee of product properties and do not justify legal consequences, but provide a framework welfare of the product for particular uses.