1. Company and product identification

- **Product name:** Vulcanizing Cement
- **Product identification internal code:**
  - 470008 CV-01, 470010 CV-00, 470011 CV-01, 470012 CV-02, 470013 CV-00, 470020, 470021 BV-01, 470022 BV-02, 470023 BV-03, 470043 CV-00 B, 470044 CV-01 B, 470045 CV-02 B, 470047 CV-01 B, 470051 CV M, 470071 SBCV1, 470072 SBCV2, 470073 SBCV3, 471110 CVU 225 TORTUGA, 471111 CVU 500 TORTUGA, 471112 CVU 1000 TORTUGA, 471113 CVU225 TORTUGA
- **Company name:** BORRACHAS VIPAL S/A
- **Address:** Rua Buarque de Macedo, 365
  95320-000 Nova Prata - RS - Brazil
- **CNPJ (Legal Entity National Register):** 87870952/0001-44
- **Company’s phone number:** (54) 3242-1666
- **Emergency number:** (54) 3242-1666
- **Fax:** (54) 3242-1736
- **E-mail:** vipal@vipal.com.br

2. Composition and ingredients information

- **Preparation:** Adhesive based on aliphatic/naphthenic and ketone solvents, natural rubber and additives for rubber.
- **Chemical nature:** Hydrocarbons and Ketones.
- **Ingredients and impurities contributing for danger:**

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>Concentration or concentration range</th>
<th>Classification and danger labeling</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-hexane and isomers</td>
<td>≅ 48.3% (p/p)</td>
<td>Flammable liquid - 3</td>
</tr>
<tr>
<td>Saturated hydrocarbons</td>
<td>≅ 1.5% (p/p)</td>
<td>Flammable liquid - 3</td>
</tr>
<tr>
<td>Benzene</td>
<td>&lt; 0.1% (p/p)</td>
<td>Flammable liquid – 3</td>
</tr>
<tr>
<td>Methyl Ethyl Ketone</td>
<td>≅ 50 % (p/p)</td>
<td>Toxic substance – 6.1</td>
</tr>
</tbody>
</table>

- **International Identification**

<table>
<thead>
<tr>
<th>Substance</th>
<th>EINECS Nº</th>
<th>Risk Phrases</th>
<th>Safety Phrases</th>
<th>Indication(s) of Danger and Symbol(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexane</td>
<td>203-777-6</td>
<td>R11, R38, R48/20, R62, R65, R67, R51/53</td>
<td>S2, S9, S16, S29, S33, S36/37, S61, S62.</td>
<td>F Xn N</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>203-806-2</td>
<td>R11, R38, R65, R67, R50/53.</td>
<td>S2, S9, S16, S25, S33, S60, S61, S62.</td>
<td>F Xn N</td>
</tr>
<tr>
<td>Heptane</td>
<td>205-563-8</td>
<td>R11, R38, R50/53, R65, R67.</td>
<td>S2, S9, S16, S29, S33, S60, S61, S62.</td>
<td>F Xn N</td>
</tr>
<tr>
<td>Methyl Ethyl Ketone</td>
<td>201-159-0</td>
<td>R11, R36, R66, R67,</td>
<td>S2, S9, S16.</td>
<td>F Xi</td>
</tr>
</tbody>
</table>
### Material Safety Data Sheets

**Product name**: Vulcanizing Cement  
**FISPQ nº**: 0003  
**Page**: 2 of 11  
**Revision**: May/2010

<table>
<thead>
<tr>
<th>Risk Phrases</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>R11: Highly flammable;</td>
<td>S2: Keep out of reach of children;</td>
</tr>
<tr>
<td>R36: Irritating to the eyes;</td>
<td>S9: Keep container in a well ventilated place;</td>
</tr>
<tr>
<td>R38: Irritating to the skin;</td>
<td>S16: Keep away from sources of ignition – No smoking;</td>
</tr>
<tr>
<td>R45: May cause cancer;</td>
<td>S29: Do not empty into drains;</td>
</tr>
<tr>
<td>R46: May cause heritable genetic damage;</td>
<td>S33: Take precautionary measures against static discharges;</td>
</tr>
<tr>
<td>R62: Possible risk of impaired fertility;</td>
<td>S45: In case of accident or if you feel unwell seek medical advice immediately (show table where possible);</td>
</tr>
<tr>
<td>R65: Harmful may cause lung damage if swallowed</td>
<td>S53: Avoid exposure. Obtain special medical instruction before use;</td>
</tr>
<tr>
<td>R66: Repeated exposure may cause skin dryness or cracking;</td>
<td>S60: This material and/or its container must be disposed of as hazardous waste;</td>
</tr>
<tr>
<td>R36/38: Irritating to eyes and skin;</td>
<td>S61: Avoid release to the environment. Refer to special instructions/Safety Data Sheet;</td>
</tr>
<tr>
<td>R48/20: Harmful; danger of serious damage by prolonged exposure through inhalation;</td>
<td>S62: If swallowed, do not induce vomiting seek medical advice immediately and show this container or label;</td>
</tr>
<tr>
<td>R51/53: Toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment</td>
<td>S36/37: Wear suitable protective clothing and gloves.</td>
</tr>
<tr>
<td>R50/53: Very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment</td>
<td></td>
</tr>
<tr>
<td>R48/23/24/25: Toxic; danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.</td>
<td></td>
</tr>
</tbody>
</table>

**T – Toxic**  
**F – Flammable**  
**Xn – Harmful**  
**N – Dangerous for the environment**  
**Xi – Irritant**

### 3. Danger identification

- **Major dangers**: Liquid and its vapors are flammable. Harmful.
- **Product effects**:
  - **Adverse effects to human health**: Vapors that are inhaled are irritating and CNS-depressant.
  - **Effects on environment**: Product’s air-borne vapors make the environment explosive and toxic. The product and water resulting from fire fighting are harmful to flora and fauna. Part of the product spilled in the water will evaporate. The product spilled on the soil may partly evaporate and partly be lixiviated and percolate, contaminating the water table, which therefore limits its use. Biodegradation speed will depend on weather conditions, dilution, and existing microorganisms.
  - **Physical and chemical dangers**: Liquid and its vapors are very flammable upon sparks or flames.
  - **Specific dangers**: Harmful, flammable product.
- **Major symptoms**: Resulting from inhalation: Nausea, headaches, dizziness, vertigo, unconsciousness to coma and death upon severer exposures. Resulting from skin contact: Dryness, irritations and dermatitis.
- **Chemical product classification**: Flammable liquid.
- **Emergency overview**: Upon leakage: Avoid all sources of ignition; immediately isolate the area. Upon fire: Use sprinklers with dry chemical powder, chemical foam or CO₂.

### 4. First-aid measures

- **First-aid measures**:
  - **Inhalation**: Remove victims to fresh air and keep them quiet and warm. Perform artificial respiration, when necessary. Refer them to a physician.
  - **Skin contact**: Take off contaminated clothes. Do not rub the affected parts. Wash with abundant water and soap. Refer them to a physician.
  - **Eye contact**: Wash with abundant water. Refer them to a physician.
  - **Ingestion**: If victims are conscious, make them drink water. Refer them to a physician.
  - **Actions that should be avoided**: Wash skin using solvent. Provoker vomit, unless it has been recently ingested in great volume and the patient is not in coma.
  - **Short description of major symptoms and effects**: Airway, skin, eye and mucosa irritation and discomfort due to smell.
  - **First-aid provider protection and/or notes for physicians**: First-aid providers should use all the individual-protection equipment that is recommended in this sheet, according to the existing scenario. Central Nervous System (CNS) depressor.
5. Fire-fighting measures

- **Appropriate extinction means:** Use chemical-powder (PQS), chemical-foam, or CO2 sprinkles. Use water-mist spout to cool down adjacencies.

- **Inappropriate appropriate extinction means:** Water on flames.

- **Specific dangers:** Water on flames may enhance fire intensity, as well as vapors may be displaced and reach an ignition source, which would cause flames to retrocede.

- **Special methods:** Removal of containers from the area on fire, if this is possible without any risks.

- **Fire-fighters protection:** Use autonomic mask to enter in closed environment.

6. Control measures for spilling or leakage

- **Personal precautions:**
  - Removal of ignition sources: Eliminate all ignition sources, prevent from sparks and flames, and do not smoke in the risk area. Isolate all leakages of ignition sources.
  - Dust control: Not applicable, because it is liquid.
  - Inhalation and mucosa-, eyes- and skin-contact prevention: Use impermeable boots, clothes and gloves; airtight goggles for chemical products and adequate respiratory protection.

- **Precautions regarding the environment:**
  - Alarm system: Surround the area with restraint barriers or trenches. Hinder the leakage, if this is possible without any risks. Do not put the spilled material on the way of any public drainage systems. Absorb using earth, or any other absorbent material. Prevent from contaminating water streams and springs. Water entrainment should take into account posterior treatment of the contaminated water. Avoid performing this entrainment.

- **Cleaning methods:**
  - Recovery: Collect the product in a duly identified, well-sealed emergency container. Keep recovered product for posterior disposal.
  - Neutralization: Not necessary; this product has pH almost neutral.
  - Disposal: Do not dispose of it in regular garbage cans. Do not dispose of it in sewage systems or water streams. Confine, when possible, for posterior recovery or disposal. Final disposal shall be accompanied by an expert, and pursuant to the environmental legislation in force in the community.
  - Secondary danger prevention: Inappropriate disposal may affect soil, and by percolation, degrade water quality in the water table.

7. Handling and storage

- **Handling:**
  - **Technical measures:**
    - Workers’ exposure prevention: Keep the work setting ventilated to avoid higher vapor concentration than that tolerable. Provide workers with skin and eye protection to prevent from direct contact with the product.
    - Fire and explosion prevention: Keep the work setting ventilated to keep vapor concentration out of explosiveness limits. Use anti-sparking tools and cover system’s conducting elements that are in contact with the product with earth to avoid ignition.
    - Precautions for safe handling: Keep the work setting ventilated to prevent from vapor formation higher than tolerated and to avoid contamination due to contact with other products.
  - Instructions for safe handling: Provide local exhausting ventilation, whenever the processes require it. Avoid high room temperatures. Avoid contact with other products.

- **Storage:**
  - **Appropriate technical measures:** Keep the product in the original container.
## Storage conditions:

| - **Appropriate:** | In a well-ventilated place at room temperature; away from oxidizing agents, ignition and heat sources to avoid degradation and fire. |
| - **To be avoided:** | Heat, sparks and high shelves. |

### Risk signaling:

Conform NFPA 704 rule – National Fire Protection Agency:

- **Health:** 1
- **Flammability:** 3
- **Reactivity:** 1
- **Special:** -

Identify using flammable symbology

### Incompatible products and materials:

Strong oxidants, such as liquid chlorine and concentrated oxygen.

## Safe package materials:

| - **Recommended:** | The manufacturer’s package. |
| - **Inappropriate:** | Any other packages. |
### 8. Individual exposure and protection control

**Engineering control measures:**
Keep the work setting ventilated to keep vapor concentration limits under the warned tolerance limits. At open settings, when handling with it, position yourself in front of the wind to avoid inhalation.

**Specific control parameters:**
- **Limits for occupational exposure:**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th># CAS</th>
<th>NR - 15</th>
<th>ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TL-MP</td>
<td>VM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ppm</td>
<td>mg/m³</td>
</tr>
<tr>
<td>Hexane</td>
<td>110-54-3</td>
<td>N.F.</td>
<td>N.F.</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>110-82-7</td>
<td>235</td>
<td>820</td>
</tr>
<tr>
<td>Ethylmethylketone</td>
<td>78-93-3</td>
<td>155</td>
<td>460</td>
</tr>
<tr>
<td>Heptane</td>
<td>142-82-5</td>
<td>400</td>
<td>1,640</td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>1¹</td>
<td>3,19¹</td>
</tr>
</tbody>
</table>

CAS = Chemical Abstracts Service  
NR 15 = Regulating rule for unhealthy activities and operations  
ACGIH = American Conference of Governmental and Industrial Hygienists  
TL – MP = Tolerance limit – weighted average  
TLV – TWA = Threshold Limit Value – Time Weighted Average  
TLV – STEL = Threshold Limit Value – Short Term Exposure Limit  
N.F. = Not found  
¹ = VRT-MPT, air-borne benzene concentration weighted average for an 8-hour period of daily work (NR-15 Annex 13-A, item 6.2)

**Biologic indicators:**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral DL₅₀ (mg/kg)</th>
<th>Dermal DL₅₀</th>
<th>Inhalative CL₅₀</th>
<th>IDHL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexane</td>
<td>28.710, mice</td>
<td>N.F.</td>
<td>5,000ppm, 10min, human CNS</td>
<td>5,000ppm</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>N.F.</td>
<td>N.F.</td>
<td>N.F.</td>
<td>1,300ppm</td>
</tr>
<tr>
<td>Ethylmethylketone</td>
<td>2,400mg/kg, mice</td>
<td>6,480mg/kg, mice</td>
<td>40g/m³, 2h, mice</td>
<td>3,000ppm</td>
</tr>
<tr>
<td>Heptane</td>
<td>N.F.</td>
<td>N.F.</td>
<td>N.F.</td>
<td>750ppm</td>
</tr>
<tr>
<td>Benzene</td>
<td>930-female rat 50-man</td>
<td>N.F.</td>
<td>9980ppm, mouse</td>
<td>3,000mg/m³</td>
</tr>
</tbody>
</table>

IDHL = Immediately Dangerous to Life or Health  
DL₅₀ = The dose of a chemical substance that kills 50% of a group of animals from the same species when administered through the same via (oral or dermal) (DL= Lethal Dose)  
CL₅₀ = Lethal atmospheric concentration of a chemical substance that kills 50% of a group of exposed animals within a given period of time (CL = Lethal Concentration)  
CNS = Central Nervous System  
N.F. = Not found

- Other limits and values: Hexane: TLV-TWA for skin 50ppm  
  Benzene: TLV-TWA for skin 0.5ppm
Recommended monitoring procedures:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Tolerance limit</th>
<th>Methods to assess contamination</th>
<th>no air</th>
<th>IBMP</th>
<th>no air</th>
<th>biologic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexane</td>
<td>500ppm</td>
<td>5mg/g creat.</td>
<td>Monitor 3500 or 3520 by 3M; Colorimetric Detector Tube MSA/Auer 215409</td>
<td>Urinary dosage of 2,5-hexanedione</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>235ppm</td>
<td>N.F.</td>
<td>Monitor 3500 or 3520 by 3M; Colorimetric Detector Tube MSA/Auer 215572</td>
<td>MEC Dosage in urine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heptane</td>
<td>400ppm</td>
<td>N.F.</td>
<td>Monitor 3500 or 3520 by 3M; Colorimetric Detector Tube MSA/Auer 215200 and 215496</td>
<td>Exhaled benzene Phenyl mercapturic acid Trans-transmuconic acid Benzene in urine Reticulocytes Platelet count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylmethylketone</td>
<td>155ppm</td>
<td>2mg/l – NR-7</td>
<td>Monitor 3500 or 3520 by 3M; Colorimetric Detector Tube MSA/Auer 215409</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>1ppm</td>
<td>N.F.</td>
<td>Monitor 3500 or 3520 by 3M; Colorimetric Detector Tube MSA/Auer 215200 and 215496</td>
<td>Exhaled benzene Phenyl mercapturic acid Trans-transmuconic acid Benzene in urine Reticulocytes Platelet count</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IBMP = maximum biologic rate permitted (NR-7 MTb) N.F. = Not found

Appropriate individual protection equipment:

- **Respiratory protection:** Ventilation to keep exposure below TL (tolerance limit). Respirator with chemical filter for organic vapors under high concentrations, and respirator with filtering semi facial part under concentrations up to TL. In cases of very high-proportion damages in confined settings without ventilation, autonomic respiration equipment or sent-air set.
- **Hands protection:** Gloves for organic solvents whenever there is risk of direct contact with the product.
- **Eyes protection:** Goggles or facial protection whenever there is the risk of sprinkles.
- **Skin and body protection:** Impermeable apron or overall whenever there is direct contact with the product.

Special precautions:

- Avoid massive exposure to vapors. Chemical products should be handled by qualified, skilled people. In places where chemical products are manipulated, workers’ exposure should be monitored, as described in the ERPP (Environmental Risk Prevention Program).

Hygiene-related measures:

- Clothes, gloves, shoes, IPE (Individual Protection Equipment) should be cleaned after being used again.
- Always use for personal hygiene: water, soap and cleansing creams.
- Wash hands before using the bathroom, eating or drinking.
- Do not eat where you work.
- Do not use gasoline, diesel oil... or any other petroleum-derived solvent for personal hygiene.
- Good operational and industrial hygiene procedures help reduce risks at handling with chemical products.

9. Physicochemical properties

- **physical state:** Liquid
- **Form:** viscous
- **Color:** Milky Beige
- **Smell:** of ketone
- **pH:** Not significant

Specific temperatures or temperature ranges at which changes in the physical state occur:

- **Distillation range:** 60°C to 84°C (at 760 mmHg)
- **Decomposition temperature:** > 200°C
- **Point of glow:** -18°C
- **Explosiveness limits superior - inferior:** 11.5 – 1.2%
- **Vapor pressure:** 0.42kgf/cm² at 37.8°C
### Material Safety Data Sheets

**Product name**: Vulcanizing Cement  
**FiSPQ nº**: 0003  
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**Revision**: May/2010

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vapor density</strong>:</td>
<td>2.9 (air = 1)</td>
</tr>
<tr>
<td><strong>Density</strong>:</td>
<td>0.71 to 0.76 (water = 1)</td>
</tr>
<tr>
<td><strong>Solubility (indicate solvent(s))</strong>:</td>
<td>Soluble in organic solvents</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong>:</td>
<td>600 (butyl acetate = 100)</td>
</tr>
<tr>
<td><strong>Viscosity</strong>:</td>
<td>1700 — 3000 cP</td>
</tr>
</tbody>
</table>

#### 10. Stability and reactivity

<table>
<thead>
<tr>
<th>Specific conditions:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instability</strong>:</td>
</tr>
<tr>
<td>Stable product under normal conditions of use. Avoid contact with strong oxidizing chemical products. Storage temperatures higher than 40°C are harmful to the product.</td>
</tr>
<tr>
<td><strong>Dangerous reactions</strong>:</td>
</tr>
<tr>
<td>Reaction with strong oxidizing chemical products (chlorates, peroxides, acids and others). Self-ignition over 280°C</td>
</tr>
<tr>
<td><strong>Conditions to be avoided</strong>:</td>
</tr>
<tr>
<td>Heat and ignition sources.</td>
</tr>
<tr>
<td><strong>Incompatible materials or substances</strong>:</td>
</tr>
<tr>
<td>Strong oxidizing agents such as peroxides, liquid chlorine and concentrated oxygen</td>
</tr>
<tr>
<td><strong>Need for adding additives and inhibitors</strong>:</td>
</tr>
<tr>
<td>Stable, therefore it does not need additives and inhibitors.</td>
</tr>
<tr>
<td><strong>Dangerous products from decomposition</strong>:</td>
</tr>
<tr>
<td>By combustion: carbon dioxide CO₂, carbon monoxide CO, and toxic gases.</td>
</tr>
</tbody>
</table>

#### 11. Toxicologic information

<table>
<thead>
<tr>
<th>Information according to the different exposure manners:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute toxicity</strong>:</td>
</tr>
</tbody>
</table>
| Inhalation: When inhaled, vapors are CNS-irritating and -depressant, and their effects range from headache, vertigo, nausea, dizziness, confusion and lack of coordination, unconsciousness, and lung edema to coma and death at severe exposures.  
  Skin contact: Skin contact causes dryness, and may cause irritation and dermatitis.  
  Eye contact: vapors cause eye irritation.  
  Ingestion: At vomiting, the major risks are chemical pneumonitis, lung edema and hemorrhage resulting from the aspiration through airway. |
| **Local effects**:                                      |
| Inhalation: it may cause superior airway irritation with wet cough (mucous secretion).  
  Skin contact: irritation and dryness.  
  Eye contact: irritation with tearing and congestion.  
  Ingestion: it may cause severe gastric lesions. |
| **Sensitization**:                                     |
| In individuals with allergic rhinitis it makes nasal mucosa sensitive. |
| **Chronic toxicity**:                                   |
| Inhalation: it may cause headache, vertigo, nausea, dizziness etc.  
  Skin contact: it may produce dryness dermatitis.  
  Eye contact: vapors may produce conjunctivitis. |
| **Toxicologically synergic effects**:                   |
| Unknown.                                               |
| **Specific effects**:                                   |
| Non-carcinogenic, non-mutagenic, non-teratogenic, non-embryotoxic product. |
| **Substances causing effects**:                         |
| **Additives**: Unknown.                                 |
| **Potentiation**: Unknown.                             |
12. Ecologic information

**Effects on environment, behavior, and product impact:**

- **Mobility:**
  - In *water medium*: immiscible, it floats in the form of pellicle, solvents evaporate over time; inert, solid residues also float, and may be collected.
  - In *soil medium*: solvents percolate and may reach water tables; inert, solid residues remain on the surface and may be collected.
  - In *atmosphere medium*: solvents evaporate.

- **Persistence/degradability:**
  - Water solvents will go to the atmosphere, where they dissipate.
  - Percolated solvents in the soil, as petroleum fraction, will remain unaltered for undetermined time.

- **Bioaccumulation:**
  - It does not bioaccumulate

- **Expected behavior:**
  - Spilled or applied, solvents will tend to evaporate, and will dissipate in the atmosphere, preferably near the soil, due to its density, which is higher than that of the air. It will be left, for the environment, the solid part of the adhesive - with inert effect.

- **Impact on environment:**
  - If the product is spilled in the water, it will float, and its solvents will damage water life until they evaporate.
  - Its solvents, once they are distributed on the soil by percolation, may damage flora, fauna and water tables.
  - In the atmosphere, solvent vapors may contribute for the greenhouse effect.

- **Ecotoxicity:**
  - Air: solvent vapors are harmful for the environment.
  - Water: may provide water with unwanted qualities, thus impairing its use.
    - Benzene: less likely as a component of this product, has its maximum allowed in fresh water at 0.005 mg / l (class 1,2 and 3), saline water to 700 micrograms per liter (class 1 and 2) to brackish water 700 micrograms per liter (class 1 and 2)
    - floating Materials: established as virtually absent in fresh water, saline and brackish Class 1 and 2;
    - Oil and grease: established as virtually absent in fresh water, saline and brackish class 1 and 2, and tolerate it iridescence for Class 3 waters sweet, saline and brackish;
  - for special class water, there is no tolerance for any kind of contaminating agents.
  - Source: Resolution CONAMA # 357, dated from March 17, 2005
  - Soil: Its solvents may affect the soil, and, by percolation, contaminate waters in the water table.

13. Considerations on treatment and disposal

**Treatment and disposal methods:**

- **Product:**
  - Product that is not used for its adhesive function, should be leaked from the container, and its solvents should be evaporated in ventilated setting. Solid residues should be kept in a covered place, in sealed containers, in good conditions, identified, and referred to treatment in a site duly licensed by the competent environmental agency.

- **Product remainders:**
  - Product’s remainders should be kept in a covered place, in sealed containers, in good conditions, identified, and referred to treatment in a site duly licensed by the competent environmental agency.

- **Utilized package:**
  - Do not reuse containers. Empty packages should be kept in a covered place, in sealed containers, in good conditions, identified and referred to treatment in a site duly licensed by the competent environmental agency.
14. Transportation information

- National and international regulations:

  □ Land and river transport:

<table>
<thead>
<tr>
<th>ONU Number</th>
<th>Proper Shipping Name/Description</th>
<th>Risk class</th>
<th>Risk Number</th>
<th>Packing Group</th>
<th>Special provisions</th>
<th>Limited quantity</th>
<th>IPE</th>
<th>Emergency Guide</th>
<th>Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1133</td>
<td>ADHESIVES, containing flammable liquid</td>
<td>3</td>
<td>33</td>
<td>II</td>
<td>102</td>
<td>333 kg</td>
<td>A</td>
<td>26</td>
<td>1</td>
</tr>
</tbody>
</table>

  □ Sea transport:

<table>
<thead>
<tr>
<th>ONU Number</th>
<th>Proper Shipping Name/Description</th>
<th>Risk class</th>
<th>Risk Number</th>
<th>Packing Group</th>
<th>Special provisions</th>
<th>Limited quantity</th>
<th>Emergency Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>1133</td>
<td>ADHESIVES, containing flammable liquid</td>
<td>3</td>
<td>33</td>
<td>II</td>
<td>944</td>
<td>5 liter</td>
<td>F-E,S-D</td>
</tr>
</tbody>
</table>

  □ Air transport:

<table>
<thead>
<tr>
<th>Number ONU</th>
<th>Proper Shipping Name/Description</th>
<th>Class</th>
<th>Danger Labeling</th>
<th>Packing Group</th>
<th>Maximum quantity per inner package on passenger/cargo aircraft</th>
<th>Maximum net quantity per out package on passenger/cargo aircraft</th>
<th>Maximum net quantity per inner package on cargo aircraft</th>
<th>Maximum net quantity per out package on cargo aircraft</th>
<th>Practical Guide for Emergency Response(ERG Code-ICAO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1133</td>
<td>Adhesives, containing flammable liquid</td>
<td>3</td>
<td>flammable liquid</td>
<td>II</td>
<td>0,5 liter (Y305), IP3 and IP3A</td>
<td>1 liter, out package</td>
<td>5 liter (305), IP3, and IP3A</td>
<td>5 liter (305), IP3A</td>
<td>3L</td>
</tr>
</tbody>
</table>

(1) – Protective gloves and boots; self-contention equipment; sprinkling hoses.

Precaution measures and specific conditions for transportation

- Land, River and Sea transport:
  Smoking is forbidden near packages during handling. Using gas lighting near packages is forbidden. In addition, devices and equipment capable of provoking ignition of products or their gases or vapors should not be used.

- Additional regulations:
  For quantities above 333 kg of this product, transported in a vehicle, it is mandatory: flammable risk label (lozenge - figure below) and safety sign (rectangle - figure below) externally fixed on the vehicle; IPE and equipment for emergencies; trained driver; product’s emergency sheet; license given by the competent environmental agency for the transportation of dangerous products. It is prohibited to carry passengers in the vehicle without having the respective IPE kits [Individual Protection Equipment].

![Flammable Liquid](image)
15. Regulations

- **Regulations:**

  1. Use it with appropriate ventilation and get protected by using a mask with organic vapor filter.
  2. Avoid repeated, prolonged contact with skin. Use impermeable gloves.
  3. This product should not be ingested; if this occurs, do not provoke vomiting. If the person is conscious, administer water or milk. Refer to specialized medical assistance and show the package.
  4. Use goggles to protect from sprinkles.
  5. Keep it away from children and animals.
  6. Flammable product; always keep it well-sealed and away from heat sources.
  7. Package should not be incinerated, reused, or perforated.

**STORAGE:** In ventilated, dry places, away from heat or ignition (sparks) sources.

16. Additional information

- **Examples:**

  - The user should be warned to keep the place of utilization well ventilated.

- **Recommended use and potential restrictions to the chemical product:**

  - Recommended for gluing and vulcanizing tire and bicycle’s tube repairs.

  - **Recomendado para colagem e vulcanização de manchões e remendos de câmara de ar.**

- **References:**

  - Toxicologia Industrial [Industrial Toxicology], 1997, Roberto Charles Góes;
  - Internet:
    - http://www.osha.gov;
    - http://www.acgih.org/home.htm;
    - http://www.chemfinder.com;
    - http://www.cas.org;
### Material Safety Data Sheets

**Product name**: Vulcanizing Cement

**FISPQ nº**: 0003  
**Page**: 11 of 11  
**Revision**: May/2010

| Information and recommendations contained in this publication were collected from apt sources. Data contained in this information sheet refer to a specific product. Borrachas Vipal S.A., through this information sheet, does not intend to give absolute, definitive information about this product and its risks; rather, it intends to provide subsidies, by giving known information, to its employees and clients for their individual protection, the maintenance of occupational continuity, and environment preservation. |

- http://ntp-server.niehs.nih.gov/cgi/iH_Indexes/All/iH_All_Frames.html
- http://ptcl.chem.ox.ac.uk/MSDS/mels.html
- http://www.osha-slc.gov/dts/Chemicalsampling/toc/toc_Che
- http://www.nfpa.org
- www.uvigo.es/servicios/prevencion/ Etiquetaxe%20substancias.ppt
- http://ecb.jrc.it/ESIS/ESIS.php
  PGM=ein&DEPUIS=autre

- **NBR 14725 – Chemical product safety information sheet - FISPQ, July 2001, ABNT: Associação Brasileira de Normas Técnicas [Brazilian Association of Technical Rules]**