1. IDENTIFICATION

1.1. Product Identifier

- **Product Name**: Menadione Sodium Bisulfite Complex (MSBC)
- **Chemical Name**: 2 Methyl 1,4 maphtoquinone, 2 Sodyum bisulfite/1,2,3,4 tetrahydro-2 methyl-1, 4- dioxo-2 Naphthalene Sulphonic acid Sodium Salt Compound with Sodium bisulfite
- **Chemical Formula**: C_{11}H_{9}NaO_{5}S
- **CAS No**: 130-37-0
- **EINECS No**: 204-987-0

1.2. Relevant Identified Uses of The Substance and Uses Advised Against

Use for animal nutrition

1.3. Details of The Supplier of the Safety Data Sheet

- **Name**: OXYVIT Kimya San. Ve Tic. A.Ş.
- **Address**: Mersin Tarsus Organize Sanayi Bölgesi 1. Cadde No:6 Mersin/TURKEY
- **Phone**: +90 324 676 43 25 (5 lines)
- **E-mail**: oxyvit@sisecam.com

1.4. Emergency Phone Numbers: + 90 324 676 43 25 (24 hours)

2. HAZARDS IDENTIFICATION

2.1. Classification of the Substance (Globally Harmonized System)

**Signal Word**

Warning

**Pictograms**
Hazard Class & Statement

H315 : Causes skin irritation
H319 : Causes serious eye irritation
H410 : Very toxic the aquatic life with long lasting effects

Precautionary Statements

P273: Avoid release to the environment
P280: Wear protective gloves/protective clothing/face protection
P302 + 352: IF ON SKIN: Wash with plenty of soap and water
P305 + 351 + 338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
P332 + 313: If skin irritation occurs: Get medical advice/attention
P337 + 313: Get medical advice/attention
P362: Take off contaminated clothing and wash before reuse

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>%</th>
<th>CAS No</th>
<th>EINECS No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menadione Sodium Bisulfite</td>
<td>65-67</td>
<td>130-37-0</td>
<td>204-987-0</td>
</tr>
<tr>
<td>Sodium metabisulfite</td>
<td>33-35</td>
<td>7681-57-4</td>
<td>231-673-0</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Skin Contact

Symptoms and effects: Cause serious skin irritation with dermatitis

First aid measure: Immediately remove contaminated clothing. Immediately wash with plenty amount of water. Use anti-irritation cream.

Eye Contact

Symptoms and effects: Cause serious eye damage/irritation

First aid measure: Immediately flush eyes with plenty of cool running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure sensing of the entire surface of the eyes and lids with water. If eye irritation persists, seek medical advice.

Inhalation

Symptoms and effects: Inhalation of dust can irritate the respiratory tract.

First aid measure: Remove victim to fresh air. Flush nose and mouth. Seek medical advice.
Ingestion:

**Symptoms and effects:** May irritates the gastrointestinal tract.

**First aid measure:** Do not induce vomiting. Call a poison center or doctor/physician if you feel unwell.

5. **FIRE FIGHTING MEASURES**

5.1. Extinguishing Media

**Suitable extinguishing media:** Water spray, CO₂, foam and dry chemical

**Unsuitable extinguishing media:** None

5.2. **Special Hazards Arising from the Substance**

Product may form irritant menadione vapors and toxic fumes due to presence of CO, NOₓ and SOₓ

5.3. **Advice for Firefighters**

Wear complete fire fighting gear, including approved protective gloves, eye protection and self-contained breathing apparatus. Wash clothing before reuse

6. **ACCIDENTAL RELEASE MEASURES**

6.1. **Personal Precautions, Protective Equipment and Emergency Procedures**

**For non-emergency personnel**

Use dust proof goggles. Do not wear contact lenses with out proper eye protection. Wear rubber or PVC gloves. Use dust mask type P2.

**For emergency responders**

Use self-contained breathing apparatus, in case of significant or accidental dust and toxic fumes emissions.

6.2. **Environmental precautions**

Sweep up residual material. Do not flush into surface water or sanitary sewer system. Dispose of waste in accordance with applicable federal, state and local environmental laws and regulations.

6.3. **Methods for cleaning up**

- Sweep and shovel into suitable containers for disposal
- Avoid dust formation
- Keep in properly labeled containers
7. HANDLING AND STORAGE

7.1. Precautions for Safe Handling
- Keep this product cool and dry
- Avoid dust formation
- Wash thoroughly after handling
- Avoid skin and eye contact
- Refer to protective measures listed in sections 7 and 8

7.2. Conditions for Safe Storage
- Keep product cool, dry and well ventilated place
- Store product in its original container
- Keep container closed

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1. Control Parameters

PEL : Not applicable
ACGIH : Not applicable
TLV : Not applicable

8.2. Engineering controls:
- Ensure adequate ventilation
- Avoid dust formation
- Provide appropriate exhaust ventilation at places where dust formed

Environmental exposure controls

Sweep up residual material. Do not flush into surface water or sanitary sewer system. Dispose of waste in accordance with applicable federal, state and local environmental laws and regulations.

8.3. Individual Protection Measures

- Eye protection
  Dust proof goggles. Do not wear contact lenses without proper eye protection.

- Skin Protection
  - Hand protection
    Wear rubber or PVC gloves. For solutions, wear acid impervious gloves.
- **Skin and body protection:**
  
  Rubber coated clothing, rubber apron and boots

- **Respiratory protection**
  
  Dust mask type P2.

**Hygiene measures**

- Do not eat, drink or smoke while using
- Wash hands before breaks and at the end of workday
- Avoid dust formation

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White to creamish crystalline powder</td>
</tr>
<tr>
<td>pH</td>
<td>4.5 - 7.0 (solution 10% water)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>not flammable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>non oxidizer</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>not applicable</td>
</tr>
<tr>
<td>Solubility</td>
<td>highly soluble in water (1 g in 2 ml water)</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapour density</td>
<td>not applicable</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>276</td>
</tr>
<tr>
<td>Melting point</td>
<td>121-124 °C with decomposition</td>
</tr>
<tr>
<td>Auto inflammability</td>
<td>not flammable</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

#### 10.1. Reactivity

The product reacts with strong oxidation agents, acids and basis

#### 10.2. Chemical Stability

Stable under recommended storage conditions (section 7)

#### 10.3. Possibility of Hazardous Reactions

The product reacts with strong oxidation agents, acids and basis

#### 10.4. Conditions to avoid

Light, heat and moisture
10.5. Incompatible Materials

Strong oxidation agents, acids and basis

10.6. Hazardous decomposition products

Irritant menadione vapours and fumes containing CO, CO₂, NOₓ and SOₓ are produced respectively by thermal decomposition or when product burns.

11. TOXICOLOGICAL INFORMATION

Toxicological Data

- Acute oral toxicity : LD₅₀ (oral rat) > 2000 mg/kg
- Acute inhalation toxicity : no information is available
- Acute dermal toxicity : no information is available
- Skin irritation : rabbit, mild skin
- Eye irritation : rabbit, mild eye irritation
- Sensitization : no information is available
- Chronic toxicity : no information is available
- Genetic toxicity : no mutagenic effects
- Teratogenicity : no teratogenic effects
- Carcinogenicity : not carcinogenic

Health Effects

- Inhalation : Irritating to respiratory system
- Eye contact : Irritating to eyes
- Skin Contact : Irritating to skin
- Ingestion : May cause gastrointestinal irritation

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity: Very toxic the aquatic life with long lasting effects

12.2. Persistence and Degradability: No information is available

12.3. Bioaccumulative Potential: No information is available

12.4. Mobility: No information is available

12.5. Other adverse effects:
- Slightly soluble in water
- Product is not a PBT substance
- Do not allow to enter waters, wastewater or soil
13. DISPOSAL CONSIDERATIONS

- In case of small quantities, flush with plenty of water
- In case of consistent amount, collect spilled product in a closed container
- Dispose in accordance with local and national regulations

14. TRANSPORT INFORMATION

- Sea (IMO/IMDG): not regulated
- Air (ICAO/IATA): not regulated
- European Road/Rail (ADR/RID): not regulated

15. REGULATORY INFORMATION

Globally Harmonized System

Warning

Hazard Class & Statement

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16. OTHER INFORMATION

To our actual knowledge, the information contained herein is accurate as of the date of
this document. However, neither OXYVIT, nor any of its affiliates makes any warranty,
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