



# Safety Data Sheet

## Menadione Sodium Bisulfite Complex

### 1. Identification of the substance and of the company

**Identification of the substance:**

Trade name: Vitamin K3 MSBC or MSBC 33%

Chemical name: Menadione Sodium Bisulfite Complex

REACH registration No.: Not available

**Use of substance:** Used as animal feed additive.

**Company identification:**

Manufacture: Hubei Zhenhua Chemical Co.,Ltd

Address: No.668,Huangshi Road,Huangshi,Hubei,P.R.China

Tel: +86-714-6406569 Fax: +86-714-6406560

**Emergency telephone number:** +86-714-6406569

### 2. Hazards identification

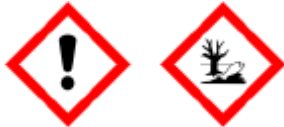
#### 2.1 Hazard Classification:

H315 Skin irritation, Category 2

H319 Eye irritation, Category 2

H410 Chronic aquatic toxicity, Category 1

#### 2.2 Hazard Pictograms:



#### 2.3 Signal Word: Warning

#### 2.4 Hazard Description:

Causes skin irritation.

Causes serious eye irritation.

Very toxic to aquatic life with long lasting effects.

#### 2.5 Precautionary Statement Prevention/Response/Disposal:

P264 Wash skin thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear protective gloves/eye protection/face protection.

P337+P313 If eye irritation persists, get medical advice/attention.

P391 Collect spillage.

P501 Dispose of contents/container to an approved waste disposal plant.



### 3. Composition/information on ingredients

Substance/mixture: mixture

Chemical name	CAS No.	EC No.	Classification	Concentration
Menadione Sodium Bisulfite	130-37-0	204-987-0	Skin Irrit.2 H315 Eye Irrit.2 H319 Aquatic Chronic 1 H410	MSB $\geq$ 63% (Menadione $\geq$ 33%)
Sodium bisulfite	7631-90-5	231-548-0	Acute tox.4	$\leq$ 37%

### 4. First aid measures

#### General information:

In all case of doubt, or symptoms persist, seek medical attention.

#### Inhalation:

Flush nose and mouth with cold water, get medical attention.

#### Skin contact:

Remove contaminated clothing, wash with plenty of cold water, apply antirritation cream.

#### Eye contact:

Rinse with plenty of cold water, get medical attention for proper care.

#### Ingestion:

Rinse mouth with cold water. In order to dilute gastric contents, drink plent of water. At the first symptoms, seek medical advice and show in any case this material safty data sheet .

### 5. Fire-fighting measures

In case of fire, product may form irritant menadione vapors and toxic fumes due to the presence of CO and SO<sub>x</sub> . Extinguish preferably with water spray, carbon dioxide, dry chemical, foam. All persons fighting a fire in confined spaces must wear adequate protective equipment including self-contained breathing apparatus.

### 6. Accidental release measures

Wear individual protective equipment according to the circumstances. Collect spilled material avoiding dusts formation. Do not allow product to enter drains, surface waters. Transfer in suitable containers for disposal in compliance with law.



## 7. Handling and storage

### Handling:

When handling apply local exhaust ventilation. Avoid dust formation. Wear protective equipment (see sect. 8) Avoid skin contact and eye contact. Wash thoroughly with cold water after handling.

### Storage:

Keep containers tightly closed and away from heat. Store in cool, dry and well ventilated place. Avoid heat and light exposure, store separate from basic substances. Standard packaging: carton boxes with inner polyethylene bag.

### Specific use(s):

Not applicable.

## 8. Exposure control/Personal control

### Exposure limit value:

Not applicable.

### Exposure control -General protective advice:

Avoid dust formation.

### Exposure control -Personal protective equipment:

Respiratory protection: particulate dust respirator.

Hand protection: industrial quality gloves (PVC, rubber). ,

Eye protection: safety goggles. ,

### Exposure control -Environmental exposure controls:

Not applicable



## 9. Physical and chemical properties

### General information:

Appearance: crystalline powder  
Color: white to yellowish  
odor: odorless.

### Important health, safety and environmental information:

pH (sol 10 % in water): 4.0 --5.5  
Melting point/range(°C): not applicable.  
Boiling point/range(°C): not applicable.  
Flash point(°C): not applicable.  
Ignition temperature(°C): not applicable.  
Vapor pressure(20°C): not applicable.  
Oxidizing properties: reducer  
Density(g/cm<sup>3</sup>) (20°C): not applicable  
Refraction index: not applicable.  
Bulk density: 0.7-0.9g/cm<sup>3</sup>  
Water solubility at 20°C: 1g/2ml  
n - Octanol/water: not applicable.  
Molecular weight: not applicable  
Explosion limits: Lower: 5g/m<sup>3</sup><Cmin<18g/m<sup>3</sup>  
Upper: not applicable.

### Other information:

Not applicable.

## 10. Stability and reactivity:

### Conditions to avoid:

The product is stable under the suggested handling and storage conditions (see sect. 7) not , causing dangerous reactions.

### Materials to avoid:

Strong oxidising agents, strong acids, strong alkalis.

### Hazardous decomposition products:

Irritant menadione vapours and fumes containing CO, CO<sub>2</sub>, , SO<sub>x</sub>, are produced respectively by , thermal decomposition or when the product burns.



**11. Toxicological information:**

**Toxicokinetics, metabolism and distribution:**

Not applicable.

**Test substance:** menadione sodium bisulfite(complex)

**Acute toxicity:**

LD50(Oral, rat) >2000mg/kg

**Sensitization:**

Skin irritation: Negative -determined on rabbit. Observed effects from industrial exposure , suggest to consider the product irritating to skin.

Eye irritation: positive -determined on rabbit. ,

**Repeated dose toxicity(sub-acute to chronic):**

Not applicable.

**CMR effect (Carcinogenicity, mutagenicity and toxicity for reproduction)**

This product is not listed as a carcinogen or a potential carcinogen in IARC or OSHA. There is no evidence of mutagenic or teratogenic effects.

**12. Ecological information:**

**Ecotoxicity:**

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Mobility:** Not applicable.

**Persistence and degradability:**

The biodegradation is 17% after 28 days of incubation. MSBC can not be assessed as readily biodegradable.

**Bioaccumulative potential:** Not applicable.

**Result of PBT assessment:** Not applicable.

**Other information:**

Use the product according to good manufacturing and handling practice, do not dispose improperly.



**13. Disposal consideration**

**Disposal methods of the substance:**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations

**Disposal methods of the contaminated packaging:**

Dispose of contaminated packaging and unused contents in accordance with federal, state and local requirements.

**14. Transport information**

	Road & rail transport	Sea transport	Air transport
UN-Number :	3077	3077	3077
Class:	9	9	9
Proper shipping name:	Environmentally hazardous substance, solid, N. O. S.		
Packaging group:	III	III	III

**15. Regulation information**

- Globally Harmonized System of Classification and Labelling of Chemicals(GHS)
- Guidance on Labelling and Packaging in accordance with Regulation 1272/2008/EC(CLP)
- European Inventory of Existing commercial Chemical Substances(EINECS)
- Hazardous chemicals catalog
- Dangerous Goods Number Of United Nations
- Classification and code of dangerous goods
- Occupational Safety and Health Act(OSHA)
- The principle of classification of transport packaging groups of dangerous good

**16. Other information**

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the result of its use, this information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.(End)