SAFE DATA SHEET
according to Regulation (EC) No. 1907/2006

Vorinostat Formulation

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
   Trade name : Vorinostat Formulation

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Use of the Substance/Mixture : Pharmaceutical

1.3 Details of the supplier of the safety data sheet
   Company : MSD
   Piercetown
   A86 HD21 Dunboyne, Ireland
   Telephone : 908-740-4000
   E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

1.4 Emergency telephone number
   1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification (REGULATION (EC) No 1272/2008)
   Germ cell mutagenicity, Category 2 : H341: Suspected of causing genetic defects.
   Reproductive toxicity, Category 1B : H360FD: May damage fertility. May damage the unborn child.
   Specific target organ toxicity - repeated exposure, Category 1 : H372: Causes damage to organs through prolonged or repeated exposure.
   Short-term (acute) aquatic hazard, Category 1 : H400: Very toxic to aquatic life.
   Long-term (chronic) aquatic hazard, Category 1 : H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
   Hazard pictograms :
   Signal word : Danger
   Hazard statements :
   H341 : Suspected of causing genetic defects.
   H360FD : May damage fertility. May damage the unborn child.
H372  Causes damage to organs through prolonged or repeated exposure.
H410  Very toxic to aquatic life with long lasting effects.

Precautionary statements:
- **Prevention:**
  - P201  Obtain special instructions before use.
  - P260  Do not breathe dust.
  - P273  Avoid release to the environment.
  - P280  Wear protective gloves/ protective clothing/ eye protection/ face protection.

- **Response:**
  - P308 + P313  IF exposed or concerned: Get medical advice/attention.
  - P391  Collect spillage.

**Hazardous components which must be listed on the label:**
**Vorinostat**

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Dust contact with the eyes can lead to mechanical irritation.
Contact with dust can cause mechanical irritation or drying of the skin.
May form explosive dust-air mixture during processing, handling or other means.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No. EC-No. Index-No. Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vorinostat</td>
<td>149647-78-9</td>
<td>Muta. 2; H341</td>
<td>&gt;= 50 - &lt; 70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Repr. 1B; H360FD STOT RE 1; H372 (Blood, thymus gland, Bone marrow, spleen, Gastrointestinal tract)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aquatic Acute 1;</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

If inhaled : If inhaled, remove to fresh air. Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact : If in eyes, rinse well with water. Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Suspected of causing genetic defects. May damage fertility. May damage the unborn child. Causes damage to organs through prolonged or repeated exposure.

Contact with dust can cause mechanical irritation or drying of the skin. Dust contact with the eyes can lead to mechanical irritation.
4.3 Indication of any immediate medical attention and special treatment needed
Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media : Water spray
                               Alcohol-resistant foam
                               Carbon dioxide (CO2)
                               Dry chemical

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture
Specific hazards during firefighting : Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides

5.3 Advice for firefighters
Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Personal precautions : Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

6.2 Environmental precautions
Environmental precautions : Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Sweep up or vacuum up spillage and collect in suitable container for disposal.
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections
See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures: Static electricity may accumulate and ignite suspended dust causing an explosion.
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Local/Total ventilation: If sufficient ventilation is unavailable, use with local exhaust ventilation.
Advice on safe handling: Do not get on skin or clothing.
Do not breathe dust.
Do not swallow.
Avoid contact with eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Minimize dust generation and accumulation.
Keep container closed when not in use.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep in properly labelled containers. Store locked up. Keep tightly closed. Store in accordance with the particular national regulations.
Advice on common storage: Do not store with the following product types:
- Strong oxidizing agents
- Organic peroxides
- Explosives
- Gases

### 7.3 Specific end use(s)
Specific use(s): No data available

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vorinostat</td>
<td>149647-78-9</td>
<td>TWA</td>
<td>5 µg/m³</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>50 µg/100 cm²</td>
<td>Internal</td>
</tr>
<tr>
<td>Cellulose</td>
<td>9004-34-6</td>
<td>OELV - 8 hrs (TWA)</td>
<td>10 mg/m³</td>
<td>IE OEL</td>
</tr>
</tbody>
</table>

#### 8.2 Exposure controls

**Engineering measures**
Minimize workplace exposure concentrations.
Apply measures to prevent dust explosions.
Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
If sufficient ventilation is unavailable, use with local exhaust ventilation.

**Personal protective equipment**

**Eye protection**
- Wear the following personal protective equipment:
  - Safety goggles
  - Equipment should conform to I.S. EN 166

**Hand protection**

**Material**
- Chemical-resistant gloves

**Remarks**
- Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

**Skin and body protection**
- Select appropriate protective clothing based on chemical
resistance data and an assessment of the local exposure potential. 
Skin contact must be avoided by using impervious protective 
clothing (gloves, aprons, boots, etc).

Respiratory protection: If adequate local exhaust ventilation is not available or expo-
sure assessment demonstrates exposures outside the rec-
ommended guidelines, use respiratory protection.
Equipment should conform to I.S. EN 143

Filter type: Particulates type (P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: powder
Colour: No data available
Odour: odourless
Odour Threshold: No data available
Melting point/freezing point: No data available
Initial boiling point and boiling range: No data available
Flammability (solid, gas): May form explosive dust-air mixture during processing, han-
dling or other means.
Flammability (liquids): No data available
Upper explosion limit / Upper flammability limit: No data available
Lower explosion limit / Lower flammability limit: No data available
Flash point: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
pH: No data available
Viscosity
Viscosity, dynamic: No data available
Viscosity, kinematic: No data available
Solubility(ies)
Water solubility: No data available
Partition coefficient: n-
octanol/water: No data available
Vapour pressure: No data available
Vorinostat Formulation

SECTION 10: Stability and reactivity

10.1 Reactivity
Not classified as a reactivity hazard.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous reactions: May form explosive dust-air mixture during processing, handling or other means. Can react with strong oxidizing agents.

10.4 Conditions to avoid
Conditions to avoid: Heat, flames and sparks. Avoid dust formation.

10.5 Incompatible materials
Materials to avoid: Oxidizing agents

10.6 Hazardous decomposition products
No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
Information on likely routes of exposure:
- Inhalation
- Skin contact
- Ingestion
- Eye contact

Acute toxicity
Not classified based on available information.
Vorinostat Formulation

Components:

Vorinostat:
Acute oral toxicity : LD50 (Mouse): > 2,000 mg/kg
LD50 (Rat): > 750 mg/kg

Acute toxicity (other routes of administration) : LDLo (Mouse): 1,250 mg/kg
Application Route: Intravenous
Exposure time: 4 h

Skin corrosion/irritation
Not classified based on available information.

Components:

Vorinostat:
Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation
Not classified based on available information.

Components:

Vorinostat:
Species : Bovine cornea
Result : No eye irritation

Respiratory or skin sensitisation
Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Components:

Vorinostat:
Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
Species : Mouse
Result : Not a skin sensitizer.

Germ cell mutagenicity
Suspected of causing genetic defects.

Components:

Vorinostat:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: positive
Vorinostat Formulation

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Result: positive

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Result: negative

Genotoxicity in vivo:
Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Oral
Result: positive

Germ cell mutagenicity assessment:
Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
May damage fertility. May damage the unborn child.

Components:

Vorinostat:
Effects on fertility:
Test Type: Fertility/early embryonic development
Species: Rat, female
Application Route: Oral
Fertility: LOAEL: 15 mg/kg body weight
Result: Preimplantation loss, Increased resorptions.

Test Type: Fertility/early embryonic development
Species: Rat, male
Application Route: Oral
Fertility: NOAEL: 150 mg/kg body weight
Result: No effects on fertility

Effects on foetal development:
Test Type: Embryo-foetal development
Species: Rat
Application Route: Oral
Developmental Toxicity: LOAEL: 50 mg/kg body weight
Result: positive

Test Type: Embryo-foetal development
Species: Rat
Application Route: Oral
Developmental Toxicity: NOAEL: 15 mg/kg body weight
Result: positive

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Oral
Developmental Toxicity: LOAEL: 150 mg/kg body weight
Result: Embryotoxic effects.

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Oral
Developmental Toxicity: NOAEL: 50 mg/kg body weight
Result: Embryotoxic effects.

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Oral
Developmental Toxicity: LOAEL: 15 mg/kg body weight
Result: Malformations were observed.

Reproductive toxicity - Assessment:
Clear evidence of adverse effects on sexual function and fertility, based on animal experiments.
Clear evidence of adverse effects on development, based on animal experiments.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Causes damage to organs through prolonged or repeated exposure.

Components:

Vorinostat:

Exposure routes: Ingestion
Target Organs: Blood, thymus gland, Bone marrow, spleen, Gastrointestinal tract
Assessment: Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Vorinostat:

Species: Rat
LOAEL: 20 mg/kg
Application Route: Oral
Exposure time: 6 Months
Target Organs: Blood, thymus gland, Bone marrow, spleen

Species: Dog
NOAEL: 60 mg/kg
LOAEL: 160 mg/kg
Application Route: Oral
Exposure time: 6 Months
Target Organs: Gastrointestinal tract

Species: Dog
NOAEL: 40 mg/kg
LOAEL: 100 mg/kg
Application Route: Oral
Exposure time: 4 Weeks
Target Organs: Blood

Aspiration toxicity
Not classified based on available information.

11.2 Information on other hazards
Endocrine disrupting properties
Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Experience with human exposure
Components:
Vorinostat:
Ingestion: Symptoms: Diarrhoea, Fatigue, Nausea, anorexia

SECTION 12: Ecological information

12.1 Toxicity
Components:
Vorinostat:
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): > 10 mg/l
Exposure time: 96 h
LC50 (Cyprinodon variegatus (sheepshead minnow)): > 10 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 10 mg/l
Exposure time: 48 h
EC50 (Americamysis): 7.4 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (green algae)): 0.183 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201
NOEC (Pseudokirchneriella subcapitata (green algae)): 0.011 mg/l
12.2 Persistence and degradability

Components:

Vorinostat:
Biodegradability : Result: Not readily biodegradable.
Biodegradation: 39.5%
Exposure time: 28 d
Method: OECD Test Guideline 314

12.3 Bioaccumulative potential

Components:

Vorinostat:
Partition coefficient: n-octanol/water : log Pow: 1.42

12.4 Mobility in soil

Components:

Vorinostat:
Distribution among environmental compartments : log Koc: 3.37

12.5 Results of PBT and vPvB assessment

Product:
Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6 Endocrine disrupting properties

**Product:**
**Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

### SECTION 13: Disposal considerations

13.1 Waste treatment methods

**Product:** Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

**Contaminated packaging:** Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

### SECTION 14: Transport information

14.1 UN number or ID number

- **ADN:** UN 3077
- **ADR:** UN 3077
- **RID:** UN 3077
- **IMDG:** UN 3077
- **IATA:** UN 3077

14.2 UN proper shipping name

- **ADN:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Vorinostat)
- **ADR:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Vorinostat)
- **RID:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Vorinostat)
- **IMDG:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Vorinostat)
IATA : Environmentally hazardous substance, solid, n.o.s. (Vorinostat)

14.3 Transport hazard class(es)

<p>| | |</p>
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<tbody>
<tr>
<td>ADN</td>
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<td>IMDG</td>
<td>9</td>
</tr>
<tr>
<td>IATA</td>
<td>9</td>
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</tbody>
</table>

14.4 Packing group

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<tr>
<td>IMDG</td>
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<td>IATA</td>
<td>9</td>
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</tbody>
</table>

14.5 Environmental hazards

<p>| | |</p>
<table>
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<tbody>
<tr>
<td>ADN</td>
<td>Environmentally hazardous : yes</td>
</tr>
<tr>
<td>ADR</td>
<td></td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET  
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Environmentally hazardous : yes
RID Environmentally hazardous : yes
IMDG Marine pollutant : yes
IATA (Passenger) Environmentally hazardous : yes
IATA (Cargo) Environmentally hazardous : yes

14.6 Special precautions for user
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments
Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

<table>
<thead>
<tr>
<th>Substance</th>
<th>Quantity 1</th>
<th>Quantity 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>100 t</td>
<td>200 t</td>
</tr>
</tbody>
</table>

Other regulations:
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

The components of this product are reported in the following inventories:
AICS : not determined
Vorinostat Formulation

SECTION 1: Identification

1.1 Identification

Vorinostat

1.2 Synonyms

- Vorinostat Formulation

1.3 Application

- Used in clinical trials for various indications

1.4 Function

- Cytotoxic

1.5 Use of the substance or mixture

- Used in cancer therapy

SECTION 2:危险性概述

2.1 Hazard Classification

- Acute toxicity
- Skin irritation

2.2 Target Organ Toxicity

- No observed adverse effect level (NOAEL)

2.3 Health Hazards

- Suspected of causing genetic defects

2.4 Environmental Hazards

- Aquatic toxicity

2.5 Other Hazards

- Specific target organ toxicity

SECTION 3: Ingredients

3.1 Formulation

- Vorinostat

3.2 Preservatives

- Not applicable

3.3 Other ingredients

- Not applicable

SECTION 4: First Aid Measures

4.1 Ingestion

- Induce vomiting

4.2 Inhalation

- Move to fresh air

4.3 Skin Contact

- Wash with soap and water

4.4 Eye Contact

- Flush with water

SECTION 5: Fire Fighting Measures

5.1 Extinguishing Media

- Water

5.2 Special Fire-fighting Procedures

- None

SECTION 6: Accidental Release Measures

6.1 Spill Containment

- Vacuum

6.2 Personal Protection

- Gloves

SECTION 7: Handling and Storage

7.1 Handling

- Keep away from heat

7.2 Storage

- In a dry place

SECTION 8: Exposition Control/Personal Protection

8.1 Personal Protective Equipment

- Respirator

8.2 Monitoring Exposure

- None

SECTION 9: Physical and Chemical Properties

9.1 Physical State

- Solid

9.2 Appearance

- White or colorless

9.3 Odour

- None

9.4 Odour Threshold

- Not applicable

9.5 Melting Point

- Not applicable

9.6 Boiling Point

- Not applicable

9.7 Viscosity

- Not applicable

9.8 Specific Gravity

- Not applicable

9.9 Dielectric Constant

- Not applicable

9.10 Refractive Index

- Not applicable

9.11 Solubility

- Not applicable

9.12 Stability

- Stable

9.13 Reactivity

- Not applicable

SECTION 10: Stability and Reactivity

10.1 Reactions

- None

10.2 Incompatibilities

- None

10.3 Hazardous Decomposition Products

- Not applicable

SECTION 11: Toxicological Information

11.1 Route of Entry

- Inhalation

11.2 Effect of Acute Exposure

- Cardiac arrhythmia

11.3 Effect of Chronic Exposure

- Bone marrow suppression

11.4 Overdose Symptoms

- Nausea, vomiting, diarrhea

SECTION 12: Ecological Information

12.1 Toxicity to Specific Biological Species

- Rodents

12.2 Biological Effects

- Reproduction

12.3 Persistence and Bioaccumulation

- Not applicable

12.4 Mobility in Soil

- Not applicable

12.5 Chemical Action on the Environment

- Not applicable

SECTION 13: Disposal Considerations

13.1 Disposal Methods

- Incineration

13.2 Hazardous Wastes

- Not applicable

13.3 Other Special Wastes

- Not applicable

SECTION 14: Transport Information

14.1 Transport Classification

- UN Number: 3064

14.2 Transport Risk Statements

- R26: Harmful if swallowed

14.3 Special Precautions for Transport

- None

14.4 Special Provisions

- None

SECTION 15: Regulatory Information

15.1 Legislation

- EU Classification
- Toxic (H341)
- Specific target organ toxicity - repeated exposure (H372)
- Very toxic to aquatic life (H400)
- Very toxic to aquatic life with long lasting effects (H410)

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information: Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Full text of H-Statements

- H341: Suspected of causing genetic defects
- H360FD: May damage fertility. May damage the unborn child
- H372: Causes damage to organs through prolonged or repeated exposure if swallowed
- H400: Very toxic to aquatic life
- H410: Very toxic to aquatic life with long lasting effects

Full text of other abbreviations

Aquatic Acute: Short-term (acute) aquatic hazard
Aquatic Chronic: Long-term (chronic) aquatic hazard
Muta.: Germ cell mutagenicity
Repr.: Reproductive toxicity
STOT RE: Specific target organ toxicity - repeated exposure
IE OEL: Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1
IE OEL / OELV - 8 hrs (TWA): Occupational exposure limit value (8-hour reference period)
Further information

Sources of key data used to compile the Safety Data Sheet:

Classification of the mixture:

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muta. 2</td>
<td>H341</td>
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