**SAFETY DATA SHEET**

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**1. Product Identifier:**

**Plantsmith Invigorating Cacti & Succulent Feed**

**2. Relevant uses of the substance or mixture and uses advised against:**

**Supplied for use as a plant feed**

**3. Details of the supplier of the safety data sheet:**

Jigsaw Marketing & Media Ltd
PO Box 703
Bucks
HP6 9BX

**Contact: The Safety Officer**
**Phone number: +44 (0) 20 7788 7686**
**Email:** chris@richardjacksonsgarden.co.uk

**4. Emergency phone number**

**Phone number: +44 (0) 7980092863**

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2. HAZARDS IDENTIFICATION

**2.1 Classification of the substance or mixture**

CLASSIFICATION according to Regulation (EC) 1272/2008 Classification, Labelling and Packaging
Not classified.

**2.2 Label Elements**

**Plantsmith Invigorating Cacti & Succulent Feed**

**Pictogram:** [None]

**Signal word:** [None]

**Hazard statements:**
[None]

**Precautionary statements:**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.

**2.3 Other Hazards**

Mixture not classed as PBT or vPvB

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3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.2 Mixtures**

**Hazardous components**

| Name: | CAS/EC No. | Index No./ REACh Registration | Pictogram(s) according | H-phrase(s) according to 1272/2008: | Concentrations [% w/w] |
|---|---|---|---|---|---|
| Ammonium nitrate | 6484-52-2/ 229-347-8 | -/ 01-2119490981-27 | GHS03  GHS07  | Ox. Sol. 3; H272<br>Eye Irrit. 2; H319<br><br>Specific Concentration Limits:<br>Eye Irrit. 2; H319: 80 % ≤ C ≤ 100% | 5 - 10 |
| Sodium molybdate | 7631-95-0/ 231-551-7 | -/ 01-2119489495-21 | None | None<br><br>Substance with Workplace Exposure Limit | <0.005 |

## 4.0. First Aid Measures

**4.1 Description of first aid measures**

**4.1.1 Inhalation**

Remove from source of exposure to fresh air; seek medical attention if symptoms persist or develop.

**4.1.2 Skin & Eye exposure**

Drench immediately with water. Remove any contaminated clothing and launder before re-use. Seek medical attention if symptoms persist or develop.

Eyes: Rinse cautiously for several minutes, remove contact lenses, if present and easy to do, rinse with clean water for 15 minutes. Seek medical attention if symptoms persist or develop.

**4.1.3 Ingestion**

Do not induce vomiting. Wash out mouth with water and give water to drink. Obtain medical attention if symptoms persist or develop.

**4.2 Most important symptoms and effects, both acute and delayed**

None reported

**4.3 Indication of any immediate medical attention and special treatment needed.**

Information not available

## 5. Fire-Fighting measures

**5.1 Extinguishing media**

Use Foam, carbon dioxide, dry powder, sand. The mixture is not classified as flammable as such extinguishing media should be chosen as appropriate for surrounding materials.

**5.2 Special Hazards arising from the substance or mixture**

Possible irritant fumes arising from combustion

**5.3 Advice for fire-fighters**

Cool down containers/equipment exposed to heat with a water spray. Contain spread of extinguishing fluids (these fluids may be hazardous for the environment). Wear complete protective clothing and self-contained breathing apparatus

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## 6. Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures**
The following precautions are considered to be good practice when using any chemicals irrespective of their classification unless otherwise specified.

Use personal protective equipment
-appropriate coveralls and gloves
-eye/face protection
-appropriate respirator

Avoid contact with skin and eyes

**6.2 Environmental Precautions**
Do not allow to enter storm drains or water courses. If this product enters a water course or a sewer (including via contaminated soil & vegetation) contact local water authority and inform the Environment Agency

**6.3 Methods and material for containment and cleaning up**
Use soil, sand or other absorbent material. Contact specialist waste disposal contractor.

**6.4 Reference to other sections**
For exposure control and individual protection measures, see section 8.
For later elimination of waste, follow the recommendations under section 13.

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## 7. Handling and storage

**7.1 Precaution for safe handling**
Avoid contact with skin and eyes. Wash Hands thoroughly after handling
Do not eat, drink or smoke when using this product. remove contaminated clothing and protective equipment before entering eating areas.

**7.2 Conditions for safe storage, including any incompatibilities**
Store in a cool dry atmosphere, in original labelled containers. Refer to manufacturer for maximum safe stacking height. Keep away from heat sources, combustible materials.

**7.3 Specific end use(s)**
Supplied for use as a plant feed.

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## 8.Exposure controls/personal protection

**8.1 Control Parameters**
Workplace exposure Limits as defined by UK HSE in document EH40/2005 4th Edition, 2020 where available:

| Substance | CAS | Workplace Exposure Limit | Comments |
|---|---|---|---|

| | number | Long-term exposure limit (8-hr TWA reference period) | | Short-term exposure limit (15 minute reference period) | | The Carc, Sen and Sk notations are not exhaustive. Notations have been applied to the substances identified in IOELV Directives |
|---|---|---|---|---|---|---|
| | | ppm | $mg.m^{-3}$ | ppm | $mg.m^{-3}$ | |
| Molybdenum compounds (as Mo) soluble compounds | - | - | 5 | - | 10 | - |

**DNELs/PNECs:**
**Sodium molybdate:**

| DNEL/DMEL | Type | Value |
|---|---|---|
| DNEL (Workers) | Long-term - systemic effects, inhalation | 23.97 $mg/m^3$ |
| DNEL (General population) | Long-term - systemic effects,oral | 7.3 mg/Kg bodyweight/ day |
| DNEL (General population) | Long-term - systemic effects, inhalation | 7.15 $mg/ m^3$ |
| PNEC aqua | Freshwater | 27.25 mg/l |
| PNEC aqua | Marine water | 4.08 mg/l |
| PNEC sediment | Freshwater | 48500 mg/kg dwt |
| PNEC sediment | Marine water | 4250 mg/kg dwt |
| PNEC soil | - | 20.39 mg/kg dwt |
| PNEC sewage treatment plant | - | 46.57 mg/l |

**Source:** SDS, Growth Technology 01/06/2022

**8.2 Exposure controls**

Engineering measures: Not applicable.
Respiratory protection: Respiratory protection not required.
Hand protection: Protective gloves.
Eye protection: Safety glasses.
Skin protection: PPE: Work footwear.
Characteristics: «CE» marking, category II.
CEN standards: EN ISO 13287, EN 20347
Maintenance: This product adapts to the first user's foot shape. That is why, as well as for hygienic reasons, it should not be used by other people.
Observations: Work footwear for professional use includes protection elements aimed at protecting users against any injury resulting from an accident.
Environmental: No special requirement.

## 9. Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

**Physical state** : Liquid

**Colour :** Clear to slightly hazy liquid, light brown yellow to brown.
**Odour :** faint specific odour.
**Odour threshold :** Not applicable as product has a barely detectable odour.
**Melting point:** Not available
**Freezing point:** ~ 0 $^{o}$C
**Boiling point or initial boiling point and boiling range:** 100 $^{o}$C
**Flammability:** Not flammable
**Lower explosion limit:** Not applicable.
**Upper explosion limit:** Not applicable.
**Flash point:** Not applicable.
**Auto-ignition temperature:** Not applicable.
**Decomposition temperature:** Not determined.
**pH:** 3-4
**Kinematic viscosity:** Not determined.
**Solubility:** Miscible in all proportions with water.
**Partition coefficient n-octanol/water (log value):** Not determined as product is inorganic.
**Vapour pressure:** Not determined.
**Relative density:** 1.06
**Density:** 1060 Kg/m$^3$
**Relative vapour density:** Not determined.
**Particle characteristics:** Not applicable.

**9.2 Other Information**
No other relevant information available

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## 10. Stability and reactivity

**10.1 Reactivity**
The product is non-reactive under normal conditions of use, storage and transport.

**10.2 Chemical Stability**
Stable under normal conditions of use.
**10.3 Possibility of hazardous reactions**
No dangerous reactions known under normal conditions of use.

**10.4 Conditions to avoid**
Keep out of direct sunlight. Protect from freezing.

**10.5 Incompatible materials**
Strong bases

**10.6 Hazardous decomposition products**
No hazardous decomposition products known at room temperature. Combustion products may include the following: carbon oxides (CO, $CO_2$) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, $NO_2$ etc.).

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## 11. Toxicological Information

**11.1 Information on toxicological effects**

| | |
|---|---|
| Acute toxicity: | Product is not classified for acute toxicity |
| Skin corrosion/irritation: | Product is not classified as skin corrosion or irritant. |
| Serious eye damage/irritation: | Product is not classified as serious eye damage or irritation. |
| Respiratory or skin sensitisation: | Product is not classified for respiratory or skin sensitisation. |
| Germ cell mutagenicity: | No information specified. |

| | |
|---|---|
| Carcinogenicity: | No information specified. |
| Reproductive toxicity: | No information specified. |
| STOT-single exposure: | Product is not classified as having Specific Target Organ Toxicity for single exposure |
| STOT-repeated exposure: | No information specified. |
| Aspiration hazard: | No information specified. |

**Ammonium nitrate:**

| | |
|---|---|
| LD50 oral rat | 2950 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity) |
| LC50 dermal rat | > 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |

**Sodium molybdate:**

| | |
|---|---|
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| LC50 dermal | > 2000 mg/kg bodyweight |
| LC50 inhalation -Rat | > 1.93 mg/l/4h |
| NOAEC (inhalation, rat, dust/mist/fume, 90 days) | > 0.1 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study) |

**Source:** SDS, Growth Technology 01/06/2022

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## 12. Ecological Information

**12.1 Toxicity**

Mixture not classified as harmful to aquatic life

**Ammonium nitrate:**

EC50 - Crustacea 490 mg/l Test organisms (species): Daphnia magna

**Sodium molybdate:**

| | |
|---|---|
| LC50 - Fish | 609.1 mg/l |
| EC50 – Crustacea | 131 ml/l |
| EC50 72h – Algae | 333.1 mg/l |
| NOEC chronic fish | 121 mg/l 84 d |
| NOEC chronic crustacea | 79 mg/l 30 d |

**Source:** SDS, Growth Technology 01/06/2022

**12.2 Persistence and degradability**

**Richard Jackson Cactus Feed**

Persistence and degradability: Expected to be biodegradable.

**Sodium molybdate**

Persistence and degradability: Readily biodegradable.

**12.3 Bioaccumulative potential**
**Richard Jackson Cactus Feed**
Partition coefficient n-octanol/water (Log Pow): Not determined as product is inorganic
Partition coefficient n-octanol/water (Log Kow): Not determined as product is inorganic
Bioaccumulative potential: Bioaccumulation is not expected to occur.

**Sodium molybdate**
Bioaccumulative potential: Low bioaccumulation potential.

**Ammonium nitrate**
Bioaccumulative potential: Low bioaccumulation potential.

**12.4 Mobility in soil**
**Richard Jackson Cactus Feed**
Ecology - soil Expected to be highly mobile in soil.

**Sodium molybdate (10102-40-6)**
Ecology - soil No data available.

**12.5 Results of PBT and vPvB**
This product does not contain any substances classified as PBT or vPvB.

**12.6 Other adverse effects**
No information is available about other adverse effects for the environment.

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13.Disposal considerations
**13.1 Waste Treatment Methods**
**Regional legislation (waste) :** Disposal must be done according to official regulations.
**Waste treatment methods** : Dispose of contents/container in accordance with licensed collector's sorting instructions.
**Sewage disposal recommendations :** Prevent entry to sewers and public waters.
**Product/Packaging disposal recommendations** : a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.
**Ecology - waste materials :** Avoid release to the environment.

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14. Transport Information
**14.1 UN number:** Product is unclassified for transport.
**14.2 UN proper shipping name:** Product is unclassified for transport.
**14.3 Transport hazard:** Product is unclassified for transport.
**14.4 Packing group:** Product is unclassified for transport.
**14.5 Environmental hazards:** Product is unclassified for transport.
**14.6 Special precautions for user:** Not specified
**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**
Applicable for Maritime bulk transport only. Check with carrier.

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15. Regulatory information
**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.**
This substance is classified and labelled in accordance with Regulation (EC) No 1272/2008 and the EC Fertiliser Regulations 2003, Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as

well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

**15.2 Chemical Safety Assessment**
A chemical safety assessment according to (EC) regulation 1907/2006 (REACH) has not been carried out for this product.

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16. OTHER INFORMATION

**Abbreviations:**

| | |
|---|---|
| DNEL | Derived-No Effect Level |
| DMEL | Derived Minimal Effect level |
| EC50 | Median effective concentration |
| Eye Irrit. 2 | Eye Irritation Category 2 |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| PNEC | Predicted No-Effect Concentration |
| PBT | Persistent, Bioaccumulative, Toxic |
| Skin Irrit. 2 | Skin Irritation Category 2 |
| vPvB | very Persistent, very Bioaccumulative |

**Full H-phrases if not given elsewhere:**

H272 may intensify fire; oxidiser.
H319 Causes serious eye irritation.

**SDS information:**
This Safety data sheet is compiled using data submitted for raw materials and practical experience.
This Safety Data Sheet is prepared in compliance with Regulation 1272/2008 and Annex II of the REACH Regulation 453/2010.
The information given herein is, to the best of our knowledge, correct and is presented in good faith but no warranty, expressed or implied is given.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a warranty of quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

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