**SAFETY DATA SHEET**
Version 1.0 – Revision date 09/02/2023

EU SDS – NO COUNTRY-SPECIFIC DATA

# identification of substance and company details

## Product Identifier

|  |  |
| --- | --- |
| Product name: | SG2 ECO Screen  |
| Product number: | MD1-131-ECO  |
| EC No. | See section 3 |
| REACH registration No. | See section 3 |
| CAS No.: | See section 3 |

## Relevant identified uses of the substance or mixture and uses advised against

|  |  |
| --- | --- |
| Identified uses | Research and development |
| Uses advised against | Not for drug, household or uses other than those identified  |

## Details of the supplier of the Safety Datasheet

|  |  |
| --- | --- |
| Supplier | Molecular Dimensions Limited |
| Address | Calibre Scientific UKUnit 5a, R-evolutionThe Advanced Manufacturing ParkSelden WayRotherhamS60 5XAUnited Kingdom |
| Telephone: | 44 (0)11422 42257 |
| Email address | enquiries@moleculardimensions.com |

## Emergency telephone number

|  |  |
| --- | --- |
| Emergency phone number | 999 |

# Hazards Identification

## Classification of substance or mixture

****Classification according to Regulation (EC) No. 1272/2008 [CLP]****

|  |  |
| --- | --- |
| H225 | Highly flammable liquid & vapour |
| H319 | Causes serious eye irritation |
| H336 | May cause drowsiness or dizziness |
| H302 | Harmful if swallowed |
| H335 | May cause respiratory irritation |
| H315 | Causes skin irritation |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| H312 | Harmful in contact with skin |
| H332 | Harmful if inhaled |
| H412 | Harmful to aquatic life with long-lasting effects |
| EUH032 | Contact with acids liberates very toxic gas |
| H318 | Causes serious eye damage |
| H410 | Very toxic to aquatic life with long-lasting effects |

## Label elements

****Labelling according to Regulation (EC) No. 1277/2008 [CLP]****

Pictogram(s):



*Hazard statement(s):*

See section 2.1.

*Precautionary statement(s):*

|  |  |
| --- | --- |
| P210 | Keep away from heat/sparks/open flames/hot surfaces – No smoking |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing |
| P370+P378 | In case of fire: Use appropriate media for extinction |
| P403+P235 | Store in a well ventilated place. Keep cool |
| P301+P312+P330 | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray |
| P302+P352 | IF ON SKIN: Wash with soap and water |
| P337+P313 | If eye irritation persists get medical advice/attention |
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection |
| P332+P313 | If skin irritation occurs: Get medical advice/attention |
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician |
| P301+P312 | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell |
| P273 | Avoid release to the environment |
| P501 | Dispose of contents/container according to instructions on SDS |

## Other hazards

No data available

# Composition/information on ingredients

## Mixtures

| **Chemical** | **EC No.** | **REACH No.** | **CAS No.** | **Concentration** | **P-code(s)** | **H-code(s)** |
| --- | --- | --- | --- | --- | --- | --- |
| 2-Propanol | 200-661-7 | 01-2119457558-25-XXXX | 67-63-0 | 10 - 20 %v/v | P210, P305+P351+P338, P370+P378, P403+P235 | H225, H319, H336 |
| Ammonium acetate | 211-162-9 | 01-2119828440-45-XXXX | 631-61-8 | 0.1 - 0.2 M |  |  |
| Ammonium chloride | 235-186-4 | 01-2119489385-24-XXXX | 12125-02-9 | 0.2M | P305+P351+P338, P301+P312+P330 | H302, H319 |
| Ammonium citrate dibasic | 221-146-3 | - | 3012-65-5 | 0.2M | P261, P305+P351+P338 | H319, H335 |
| Ammonium citrate tribasic | 222-394-5 | - | 3458-72-8 | 0.2M | P261, P305+P351+P338 | H315, H319, H335 |
| Ammonium formate | 208-753-9 | - | 540-69-2 | 0.2M | P261, P305+P351+P338 | H315, H319, H335 |
| Ammonium sulfate | 231-984-1 | - | 7783-20-2 | 0.2 - 2 M |  |  |
| BIS-TRIS | 230-237-7 | - | 6976-37-0 | 0.1M | P302+P352, P337+P313, P304+P340, P312, P280, P332+P313 | H315, H319, H335 |
| Calcium acetate hydrate | 200-580-7 | - | 114460-21-8 | 0.16 - 0.2 M |  |  |
| Calcium chloride dihydrate | 233-140-8 | - | 10035-04-8 | 0.02 - 0.2 M | P305+P351+P338 | H319 |
| CHES | 203-115-6 | 01-2120758040-65-XXXX | 103-47-9 | 0.1M |  |  |
| Citric acid | 201-069-1 | 01-2119457026-42-XXXX | 77-92-9 | 0.1M | P305+P351+P338 | H319 |
| DL-Malic acid | 230-022-8 | - | 6915-15-7 | 60%w/v | P280, P305+P351+P338, P337+P313 | H319 |
| Ethylene glycol | 203-473-3 | 01-2119456816-28-XXXX | 107-21-1 | 8%v/v | P280, P301+P310 | H302, H373 |
| Glycerol | 200-289-5 | - | 56-81-5 | 12 - 20 %v/v |  |  |
| HEPES sodium salt | 278-169-7 | - | 75277-39-3 | 0.1M |  |  |
| Hexylene glycol | 203-489-0 | 01-2119539582-35-XXXX | 107-41-5 | 5 - 70 %v/v | P280, P305+P351+P338, P337+P313 | H315, H319 |
| Jeffamine® ED-2003 | - | - | 65605-36-9 | 30%w/v |  |  |
| Lithium sulfate | 233-820-4 | - | 10377-48-7 | 0.2 - 1.5 M | P280, P301+P312, P305+P351+P338 | H302, H319 |
| L-Proline | 205-702-2 | 01-2119955071-44-XXXX | 147-85-3 | 0.2M |  |  |
| Magnesium acetate tetrahydrate | 205-554-9 | - | 16674-78-5 | 0.2M |  |  |
| Magnesium chloride hexahydrate | 232-094-6 | - | 7791-18-6 | 0.05 - 0.2 M |  |  |
| Magnesium formate dihydrate | - | - | 6150-82-9 | 0.2M |  |  |
| Magnesium sulfate heptahydrate | 231-298-2 | 01-2119486789-11-XXXX | 10034-99-8 | 1.6M |  |  |
| MES monohydrate | 224-632-3 | - | 145224-94-8 | 0.08-0.1M | P261, P305+P351+P338 | H315, H319, H335 |
| Poly(ethylene glycol) 10000 | 500-038-2 | - | 25322-68-3 | 17 - 20 %w/v |  |  |
| Poly(ethylene glycol) 1500 | 500-038-2 | - | 25322-68-3 | 25%w/v |  |  |
| Poly(ethylene glycol) 20000 | 500-038-2 | - | 25322-68-3 | 12%w/v |  |  |
| Poly(ethylene glycol) 3000 | 500-038-2 | - | 25322-68-3 | 20%w/v |  |  |
| Poly(ethylene glycol) 3350 | 500-038-2 | - | 25322-68-3 | 10 - 25 %w/v |  |  |
| Poly(ethylene glycol) 400 | 500-038-2 | - | 25322-68-3 | 2 - 30 %v/v |  |  |
| Poly(ethylene glycol) 4000 | 500-038-2 | - | 25322-68-3 | 8 - 30 %w/v |  |  |
| Poly(ethylene glycol) 6000 | 500-038-2 | - | 25322-68-3 | 10%w/v |  |  |
| Poly(ethylene glycol) 8000 | 500-038-2 | - | 25322-68-3 | 8 - 30 %w/v |  |  |
| Poly(ethylene glycol) methyl ether 2000 | - | - | 9004-74-4 | 28 - 30 %w/v |  |  |
| Poly(ethylene glycol) methyl ether 500 | - | - | 9004-74-4 | 30%v/v |  |  |
| Poly(ethylene glycol) methyl ether 5000 | - | - | 9004-74-4 | 20%w/v |  |  |
| Potassium sodium tartrate tetrahydrate | 206-156-8 | - | 6381-59-5 | 0.2M |  |  |
| Potassium thiocyanate | 206-370-1 | - | 333-20-0 | 0.1 - 0.2 M | P273, P280 | H302, H312, H332, H412, EUH032 |
| Sodium acetate | 204-823-8 | - | 127-09-3 | 0.1 - 0.2 M |  |  |
| Sodium acetate trihydrate | 204-823-8 | 01-2119485123-42-XXXX | 6131-90-4 | 60%w/v |  |  |
| Sodium chloride | 231-598-3 | 01-2119485491-33-XXXX | 7647-14-5 | 0.1 - 4.3 M |  |  |
| Sodium citrate tribasic dihydrate | 200-675-3 | 01-2119457027-40-XXXX | 6132-04-3 | 0.1 - 1.4 M |  |  |
| Sodium formate | 205-488-0 | 01-2119486468-21-XXXX | 141-53-7 | 0.2 - 4 M |  |  |
| Sodium malonate dibasic monohydrate | - | - | 26522-85-0 | 0.2 - 2.4 M |  |  |
| Sodium phosphate dibasic dihydrate | 231-448-7 | - | 10028-24-7 | 0.1M |  |  |
| Sodium thiocyanate | 208-754-4 | - | 540-72-7 | 0.2M | P273, P280 | H302, H312, H332, H412, EUH032 |
| Succinic acid | 203-740-4 | 01-2119896114-34-XXXX | 110-15-6 | 60%w/v | P280, P305+P351+P338 | H318 |
| Trizma® hydrochloride | 214-684-5 | - | 1185-53-1 | 0.1M |  |  |
| Zinc sulfate heptahydrate | 231-793-3 | - | 7446-20-0 | 0.01M | P273, P280, P305+P351+P338, P501 | H302, H318, H410 |
| Ammonium tartrate dibasic | - | - | 3164-29-2 | 60%w/v |  |  |
| MES sodium salt | 275-203-2 | 01-2120758236-50-XXXX | 71119-23-8 | 0.08 - 0.1 M |  |  |
| Poly(ethylene glycol) methyl ether 550 | - | - | 9004-74-4 | 25 - 30 %v/v |  |  |
| DL-Malic acid disodium salt | - | - | 676-46-0 | 2.1M |  |  |

# First aid measures

## Description of first aid measures

|  |
| --- |
| ****General notes**** |
| **Consult a doctor. Show this safety datasheet to the doctor in attendance.** |
| ****Following inhalation**** |
| Move to fresh air. If not breathing, give artificial respiration. Consult a doctor. |
| ****Following skin contact**** |
| **Wash off with soap & water. Consult a doctor.** |
| ****Following eye contact**** |
| **Rinse thoroughly for at least 15 minutes. Consult a doctor. Flush eyes with water.** |
| ****Following ingestion**** |
| **Do NOT induce vomiting. Rinse mouth with water. Consult a doctor.** |
| ****Self-protection for first aider**** |
| **Always use recommended PPE when treating patient.** |

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

The most important known effects are detailed in section 2.2 and section 11

## Indication of any immediate medical attention and special treatment needed

No data available

# fire-fighting methods

## Extinguishing media

Use water spray, alcohol resistant foam, dry chemical or carbon dioxide. Use dry chemical powder.

## Special hazards arising from the substance or mixture

Carbon oxides. Nitrogen oxides. Hydrogen chloride gas. Sulfur oxides. Calcium oxides. Sodium oxides. Lithium oxides. Magnesium oxides. Metal oxides. Potassium oxides. Phosphorous oxides. Zinc oxides.

## Advice for firefighters

Wear breathing apparatus. Use water spray to cool unopened containers.

# accidental release measures

## Personal precautions, protective equipment and emergency procedures

Use personal protective equipment including respiratory protection. Avoid breathing vapours. Use personal protective equipment.

## Environmental precautions

Do not let product enter drains

## Methods and materials for containment and clean up

Use spill kit to contain spillage & use wet brushing to place in a suitable container for disposal. Do not flush with water. Remove all sources of ignition. Evacuate personnel to safe areas.

## Reference to any other sections

For disposal, see section 13

# Handling and storage

## Precautions for safe handling

For precautions, see section 2.2

## Conditions for safe storage, including any incompatibilities.

Store in cool place. Keep container tightly closed in well-ventilated place. Containers which are opened must be carefully resealed and stored upright to prevent leakage.

## Specific end use

Apart from uses in Section 1.2, no other specific uses are stipulated.

# Exposure controls/personal protection

## Control parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Chemical** | **CAS No.** | **Country** | **Limit value** | **Basis** |
| ****STEL**** | ****TWA**** |
| **2-Propanol** | **67-63-0** | **UK** | **500 ppm** | **400 ppm** | **EH40 WEL - Workplace Exposure Limit** |
| **Ammonium chloride** | **12125-02-9** | **UK** | **20 mg/m3** | **10 mg/m3** | **EH40 WEL - Workplace Exposure Limit** |
| **Ethylene glycol** | **107-21-1** | **UK** | **40 ppm** | **20 ppm** | **EH40 WEL - Workplace Exposure Limit** |
| **Glycerol** | **56-81-5** | **UK** |  | **10 mg/m3** | **EH40 WEL - Workplace Exposure Limit** |
| **Hexylene glycol** | **107-41-5** | **UK** | **25 ppm** | **25 ppm** | **EH40 WEL - Workplace Exposure Limit** |

## ****Exposure controls****

### Appropriate engineering controls

Wash hands before work break and at the end of the day

### Personal protection

****Eye/face protection****

**Face shield & safety specs.**

****Skin Protection****

**Nitrile gloves (splash protection only) and lab coat**

****Respiratory protection****

**Use respirators and components tested and approved under appropriate government standards such as CEN (EU) as back up to engineering control**

****Environmental exposure controls****

**Do not let product enter drains**

# ****Physical and chemical properties****

|  |  |
| --- | --- |
| a) Appearance | Transparent liquid |
| b) Odour | No data available |
| c) Odour threshold | No data available |
| d) pH | No data available |
| e) Melting point / freezing point | No data available |
| f) Initial boiling point and boiling range | No data available |
| g) Flash point | No data available |
| h) Evaporation rate | No data available |
| i) Flammability | No data available |
| j) Upper / lower flammability or exposure limits | No data available |
| k) Vapour pressure | No data available |
| l) Vapour density | No data available |
| m) Relative density | No data available |
| n) Solubility(ies) | No data available |
| o) Partition coefficient: n-octanol / water | No data available |
| p) Auto-ignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | No data available |
| t) Oxidising properties | No data available |

# stability and reactivity

|  |  |
| --- | --- |
| Reactivity | No data available |
| Chemical stability | No data available |
| Possibility of hazardous reactions | No data available |
| Conditions to avoid | No data available |
| Incompatible materials | Strong oxidising agents, strong acids, strong bases |
| Hazardous decomposition materials | No data available. In case of fire see section 5 |

# Toxicological Information

## Information on toxicological effects

|  |  |
| --- | --- |
| a) Acute toxicity | No data available |
| b) Skin corrosion / irritation | No data available |
| c) Serious eye damage / irritation | No data available |
| d) Respiratory or skin sensitization | No data available |
| e) Germ cell mutagenicity | No data available |
| f) Carcinogenicity | No data available |
| g) Reproductive toxicity | No data available |
| h) STOT - single exposure | No data available |
| i) STOT - repeated exposure | No data available |
| j) Aspiration hazard | No data available |

## Delayed and immediate effects as well as chronic effects from short to long term exposure

Symptoms

Central nervous system depression, nausea, headache, vomiting, drowsiness. Overexposure could cause mild, reversible liver effects. Vomiting, diarrhoea, damage to tooth enamel, dermatitis. Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting. Early symptoms of ingestion similar to drunkenness, leading to nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular, collapse, pulmonary edema. Without treatment, death may occur in 2h to 24h. Long term affects include renal failure, brain and liver damage. Consumption of alcohol may increase toxic effects. Headache, nausea, vomiting. May cause kidney irregularities. Nausea, dizziness, headache. Dizziness, procrastination, can cause kidney damage if sodium intake is limited. Dehydration, weight loss, dermatological effects, thyroid disturbances. Central nervous system effects including: blurred vision, sensory loss, slurred speech, ataxia, convul. Diarrhea, vomiting, neuromuscular effects such as tremors, clonus, hyperactive reflexes. Abdominal, nausea, vomiting. Vomiting, diarrhoea, dehydration, congestion in internal organs. Inflammatory reactions in gastrointestinal tract. Nausea, headache, vomiting. Irritating to respiratory tract. Can cause oxide Phosphorous oxides dermatitis. Metallic taste, marked thirst, coughing, fatigue, weakness, muscular pain, nausea followed by fever & chills. Bronchitis/pneumonia with blueish tint to skin, burning sensation. Shortness of breath, headache, vomiting, airway resistance, cardiovascular effects, pulmonary edema, congestive heart failure.

# ecological information

|  |  |
| --- | --- |
| Toxicity | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Results of PBT and vPvB assessment | No data available |
| Other adverse effects | No data available |

# disposal considerations

## Waste treatment methods

Product / packaging disposal

Dispose of packaging as unused product. Offer surplus and non-recyclable solutions to a licensed disposal company.
Observe all EU and local environmental regulations

# transport information

|  |
| --- |
| UN number |
| A.R.D./R.I.D. | 3082 | I.M.D.G. | 3082 | I.C.A.O.-T.I. | 3082 | A.D.N. | 3082 |
| UN proper shipping name |  |
| A.R.D./R.I.D. | Environmentally hazardous substance, liquid, n.o.s. |  |  | I.M.D.G. | Environmentally hazardous substance, liquid, n.o.s. |
| I.C.A.O.-T.I. | Environmentally hazardous substance, liquid, n.o.s. |  |  | A.D.N. | Environmentally hazardous substance, liquid, n.o.s. |
| Transport hazard class(es) |  |
| A.R.D./R.I.D. | 9 | I.M.D.G. | 9 | I.C.A.O.-T.I. | 9 | A.D.N. | 9 |
| Packaging group |  |
| A.R.D./R.I.D. | II | I.M.D.G. | II | I.C.A.O.-T.I. | II | A.D.N. | II |
| Environmental hazards |  |
| A.R.D./R.I.D. | Yes | I.M.D.G. | Yes | I.C.A.O.-T.I. | Yes | A.D.N. | Yes |
| Special precautions for user |  |
| A.R.D./R.I.D. | No data available | I.M.D.G. | No data available |  |  |  |
| I.C.A..-T.I. | No data available | A.D.N. | No data available |  |  |  |

# regulatory information

## Safety, health and environmental regulations

No data available.

## Chemical safety assessment

For this product a chemical safety assessment was not carried out.

# Other information

1. **Changes since last revision**

**First issue**

1. **Key to any abbreviations used**
2. References and sources for data

sigmaaldrich.com

fishersci.co.uk

anatrace.com

1. Indication of methods used for classification (mixtures only)

No data available

1. List of Hazard and Precautionary phrase not listed in full in other sections

See Section 2.1.

1. Advice for training

*Disclaimer:*

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Molecular Dimensions Ltd., shall not be held liable for any damage resulting from handling or from contact with the above product.