Conforms to ANSI Z400.5-2004 Standard (United States).

TECHNAFLORA PLANT PRODUCTS LTD SAFETY DATA SHEET

Rootech

1. Product and company identification

| Product name | : Rootech |
|-----------------------|---|
| Material uses | : Propagation gel |
| Supplier/Manufacturer | : Technaflora Plant Products Ltd. 1533 Broadway Street, 125 Port Coquitlam, B.C. Canada, V3C 6P3 Tel. 604-468-4769 / 1-800-586-1211 |
| Responsible name | : Atrion Regulatory Services, Inc. |
| In case of emergency | : CHEMTREC, U.S. : +1-800-424-9300 International: +1-703-527-3887 |
| | |

2. Hazards identification

| Physical state | | | | | |
|---|---|---|--|--|--|
| Physical state | ÷ | Liquid. [Gel.] | | | |
| Odor | ÷ | Neutral. | | | |
| OSHA/HCS status | CS status While this material is not considered hazardous by the OSHA Hazard Communic Standard (29 CFR 1910.1200), this MSDS contains valuable information critical t safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product. | | | | |
| Emergency overview | : | NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED. | | | |
| | | No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing. | | | |
| Routes of entry | : | Dermal contact. Eye contact. Inhalation. Ingestion. | | | |
| Potential acute health effects | | | | | |
| Inhalation | : | No known significant effects or critical hazards. | | | |
| Ingestion | 1 | No known significant effects or critical hazards. | | | |
| Skin | 1 | No known significant effects or critical hazards. | | | |
| Eyes | : | o known significant effects or critical hazards. | | | |
| Potential chronic health effect | ts | | | | |
| Chronic effects | : | hown significant effects or critical hazards. | | | |
| Carcinogenicity | 1 | known significant effects or critical hazards. | | | |
| Mutagenicity | 1 | lo known significant effects or critical hazards. | | | |
| Teratogenicity | 1 | No known significant effects or critical hazards. | | | |
| Developmental effects | 1 | No known significant effects or critical hazards. | | | |
| Fertility effects | 1 | No known significant effects or critical hazards. | | | |
| Over-exposure signs/sympton | ms | i | | | |
| Inhalation | 4 | No specific data. | | | |
| Ingestion | 1 | No specific data. | | | |
| Skin | 1 | No specific data. | | | |
| Eyes | 1 | No specific data. | | | |
| Medical conditions aggravated by over- exposure | : | None known. | | | |
| See toxicological information | (s | ection 11) | | | |



3. Composition/information on ingredients

| United Stat | tes |
|---|---------------------------|
| Name | CAS number % |
| Propylene glycol 1H-indole-3-butanoic acid | 57-55-610 - 30133-32-40.5 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

| 4. First aid measures | | | | |
|----------------------------|--|--|--|--|
| Eye contact | : Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur. | | | |
| Skin contact | : Wash with soap and water. Get medical attention if symptoms occur. | | | |
| Inhalation | : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear. | | | |
| Ingestion | : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear. | | | |
| Protection of first-aiders | : No action shall be taken involving any personal risk or without suitable training. | | | |
| Notes to physician | : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. | | | |

5. Fire-fighting measures

| Flammability of the product | : May be combustible at high temperature. | | | |
|--|---|--|--|--|
| Extinguishing media | | | | |
| Suitable | : Use an extinguishing agent suitable for the surrounding fire. | | | |
| Not suitable | : None known. | | | |
| Hazardous thermal decomposition products | : Decomposition products may include the following materials: carbon dioxide carbon monoxide | | | |
| Special protective equipment for fire-fighters | : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. | | | |

6. Accidental release measures

| Personal precautions | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel fro entering. Do not touch or walk through spilled material. Avoid breathing vapor Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8). | om |
|---------------------------|---|---|
| Environmental precautions | Avoid dispersal of spilled material and runoff and contact with soil, waterways, or and sewers. Inform the relevant authorities if the product has caused environm pollution (sewers, waterways, soil or air). | |
| Methods for cleaning up | | |
| Small spill | Stop leak if without risk. Move containers from spill area. Dilute with water and if water-soluble or absorb with an inert dry material and place in an appropriate disposal container. Dispose of via a licensed waste disposal contractor. | |
| Large spill | Stop leak if without risk. Move containers from spill area. Approach release fro upwind. Prevent entry into sewers, water courses, basements or confined area spillages into an effluent treatment plant or proceed as follows. Contain and co spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite of diatomaceous earth and place in container for disposal according to local regula (see section 13). Dispose of via a licensed waste disposal contractor. Contami absorbent material may pose the same hazard as the spilled product. Note: see 1 for emergency contact information and section 13 for waste disposal. | is. Wash llect or ations inated |



7. Handling and storage

| | 0 | 5 |
|----------|---|--|
| Handling | | : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| Storage | | : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully rescaled and kept |

containment to avoid environmental contamination.

8. Exposure controls/personal protection

| | United States |
|------------------|------------------------------------|
| Product name | Exposure limits |
| Propylene glycol | AIHA WEEL (United States, 1/2007). |
| | TWA: 10 mg/m³ 8 hour(s). |

Consult local authorities for acceptable exposure limits.

| Consult local authorities for | acceptable exposure limits. |
|---|---|
| Recommended monitoring procedures | : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. |
| Engineering measures | : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits. |
| Hygiene measures | : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Personal protection | |
| Eyes | : Safety glasses. |
| Skin | : Lab coat. |
| Respiratory | : A respirator is not needed under normal and intended conditions of product use. |
| Hands | : Disposable vinyl gloves. |
| Personal protective equipment (Pictograms) | |
| HMIS Code/Personal protective equipment | : A |
| Environmental exposure controls | : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, |

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate



9. Physical and chemical properties

| Physical state | : Liquid. [Gel.] |
|------------------|---|
| Color | : Pink. |
| Odor | : Neutral. |
| рН | : 6.2 to 6.5 |
| Relative density | : 1.2 |
| Solubility | : Partially soluble in the following materials: cold water and hot water. |

10. Stability and reactivity

| Stability | : The product is stable. |
|-------------------------------------|---|
| Hazardous polymerization | : Under normal conditions of storage and use, hazardous polymerization will not occur. |
| Conditions to avoid | : No specific data. |
| Materials to avoid | Reactive or incompatible with the following materials: oxidizing materials. Slightly reactive or incompatible with the following materials: acids and alkalis. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Conditions of reactivity | : Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge. Non-flammable in the presence of the following materials or conditions: heat. |

11. Toxicological information

| Acute toxicity | | | | | |
|---|---|---------------------------------------|---------------------------------------|---|---------------|
| Product/ingredient name Propylene glycol | | <mark>Species</mark> Rabbit Rat | Dose 20800 mg/kg 20 g/kg | Result LD50 Dermal LD50 Oral | Exposure - |
| Inhalation | : No known signi | ificant effects o | or critical hazards. | | |
| Ingestion | : No known signi | ificant effects o | or critical hazards. | | |
| Skin | : No known significant effects or critical hazards. | | | | |
| Eyes | : No known signi | ificant effects o | or critical hazards. | | |

12. Ecological information

| Environmental effects Aquatic ecotoxicity | : No known significant effe | cts or critical haz | zards. | |
|--|------------------------------|---------------------|----------|------------------------------|
| Product/ingredient name | Test | Species | Exposure | Result |
| Propylene glycol | - | Daphnia | 48 hours | Acute EC50 >10000000 ug/L |
| | - | Fish | 96 hours | Acute LC50 710000 ug/L |
| | - | Daphnia | 48 hours | Acute LC50 4919 mg/L |
| | - | Fish | 96 hours | Chronic NOEC 600000 ug/L |
| | - | Daphnia | 48 hours | Chronic NOEC 660000 ug/L |
| | No lucature simulficant offe | | | - |

Other adverse effects

: No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal

: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.



13. Disposal considerations

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

AERG

: Not applicable.

Regulatory information

DOT/ IMDG/ IATA

IATA : Not regulated.

15. Regulatory information

| United States | | |
|--|---|--|
| HCS Classification | ot regulated. | |
| U.S. Federal regulations | nited States inventory (TSCA 8b): All cor | nponents are listed or exempted. |
| | ARA 302/304/311/312 extremely hazardo ARA 302/304 emergency planning and n ARA 302/304/311/312 hazardous chemic ARA 311/312 MSDS distribution - chemic opylene glycol: Immediate (acute) health h | als : Propylene glycol cal inventory - hazard identification : |
| | ean Water Act (CWA) 307: No products w | vere found. |
| | ean Water Act (CWA) 311: No products w | rere found. |
| | ean Air Act (CAA) 112 accidental releas | e prevention: No products were found. |
| | ean Air Act (CAA) 112 regulated flamma | ble substances: No products were found. |
| | ean Air Act (CAA) 112 regulated toxic s | ubstances: No products were found. |
| State regulations | onnecticut Carcinogen Reporting: None onnecticut Hazardous Material Survey: orida substances: None of the componer inois Chemical Safety Act: None of the c | of the components are listed. None of the components are listed. its are listed. imployee Act : None of the components are ents are listed. e listed. omponents are listed. omponents are listed. of the components are listed. of the components are listed. are listed. Act : None of the components are listed. : The following components are listed: |
| International regulations International lists | is product, (and its ingredients) is (are) list empted from being listed, in Australia (AIC | ed on national inventories, or is (are) S), in Europe (EINECS/ELINCS), in Korea |



(TCCL), in Japan (METI), in the Philippines (RA6969).

16. Other information



: NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Hazardous Material Information System (U.S.A.)



4- Extreme 3- Serious 2- Moderate 1- Slight 0- Minimal See section 8 for more detailed information on personal protection.

HAZARD RATINGS

The customer is responsible for determining the PPE code for this material.

2

| National Fire Protection Association (U.S.A.) | : |
|--|--|
| | Flammability |
| | Health 0 0 Instability |
| | Special |
| References | ANSI Z400.5, MSDS Standard, 2004 Manufacturer's Material Safety Data Sheet 29CFR Part1910.1200 OSHA MSDS Requirements 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. |
| Date of issue | : 05/01/2008 |
| Version | : 1 |

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

