STENCIL HONEY STENCIL APPLICATOR MSDS

Aqua

Product Name: Distilled Water.

Section 1

Concentration: 100% Component: Not applicable TSCA: YES TLV/TWA: Not Established STEL: N/A PEL: N/A Toxicity: N/A

Section 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name: CAS Number: Distilled Water 7732-18-5

Section 3 – HAZARD IDENTIFICATION

This product does not contain a toxic chemical subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40CFR372).

Section 4 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colourless liquid. Odor: Odorless pH: 7 Molecular Weight: 16 Boiling point: 100 °C Vapor pressure: 3.169 kPa @ 25 °C Vapor density: N/A Freezing Point 0 °C Specific Gravity (H2O=1) 1 Solubility: Complete Flash point: Non-flammable

Section 5 - STABILITY AND REACTIVITY

Stable: Yes Conditions to avoid: None Incompatibles: Strong acids and bases, water reactive substances Hazardous decomposition products: Will not occur

Section 6 – HEALTH HAZARD DATA

Inhalation: No emergency care anticipated. Skin contact: No emergency care anticipated. Eye contact: No emergency care anticipated. Ingestion: No emergency care anticipated. Medical Conditions Generally Aggravated by Exposure: None Identified Carcinogenicity: NTP: No IARC: No ZLIST: No OSHA Reg: No

Section 7 – EMERGENCY FIRST AID PROCEDURES CALL A PHYSICIAN

Inhalation: No emergency care anticipated. Skin contact: No emergency care anticipated. Eye contact: No emergency care anticipated. Ingestion: No emergency care anticipated.

Section 8 – FIRE-FIGHTING MEASURES

Extinguishing media: Will not burn nor support fire. Special Fire-Fighting Procedures: Not required. Auto Ignition Temperature: N/A Lower Explosion Level: N/A NFPA Rating: N/A Toxic Gases Produced: N/A Unusual Fires Explosion Hazards: N/A

Section 9 – HANDLING AND STORAGE

Handling: Observe good industrial hygiene practices. Storage: Store in closed original bottle. Keep container tightly closed. Store in cool and dry place. In Case of Spillage or Discharge: In case of spillage, clean with absorbent material. Disposal of spillages and waste: Follow Federal, State, and Local regulations for waste. EPA Hazardous Waste #: N/A

Section 10 – EXPOSURE CONTROL/PERSONAL PROTECTION

Ventilation: Local Exhaust. Respiratory Protection: Not required. Personal protection: Not required. Other: Not required.

Aloe Barbadensis

Section 1: Identification of the substance/mixture:

1.1 Product Identifier Trade Name: Organic Aloe Vera Powder 200:1 INCI: Aloe Barbadensis Leaf Juice Powder Definition Biological Definition: The (spray-) dried powder obtained from Aloe vera gel (Aloe barbardensis Liliaceae). Reach Registration Number: N/A FEMA No.: - FDA No.: - CoE No.: - CAS No.: 85507-69-3 / 94349-62-9 EC No.: 287-390-8 / 305-181-2 EINECS No.: 287-390-8 / 305-181-2

1.2 1.2 Relevant identified uses of the substance or mixture and uses advised against Identified Uses: No Additional data available.

Section 2 – Hazards Identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 Classification (1999/45): Not Classed as a Hazardous substance Classification (EC 1272/2008): Not Classed as a Hazardous substance.

2.2 Label elements Label Elements in accordance with (EC) No 1272/2008: None.

2.3 Other hazards Signal Word: None. Contains: Contains no hazardous substance. Hazard Statements: None. Precautionary Statements: None. Supplementary Precautionary Statements: None. PBT or vPvB according to Annex XIII: No. Adverse physio-chemical properties: None. Adverse effects on human health: None.

Section 3: Composition/Information on ingredients:

3.1 Substances: 100% Aloe barbadensis leaf juice powder- CAS no- 85507-69-3 Not classed as a hazardous substance.

3.2 Mixtures: No additional data available.

Section 4: First Aid Measures

- 4.1 Description of first aid measures General Advice: No additional data available.

Inhalation:

• Move affected person to fresh air. • Get medical attention if any discomfort continues.

Ingestion:

• Rinse mouth out with water. • Get medical attention if any discomfort continues.

Skin Contact:

• Remove contaminated clothes.

• Wash skin with soap & water.

• Get medical attention if any discomfort continues.

Eye Contact:

• Immediately flush with plenty of water for up to 15 minutes.

• Remove any contact lenses and open eyelids wide apart. Safety Data Sheet (H) 3

• Get medical attention if any discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed Symptoms and effects: None.

4.3 Indication of any immediate medical attention and special treatment needed Special requirements: No specific recommendations.

Section 5 – Firefighting measures:

5.1 Extinguishing media Suitable extinguishing Media: Foam, Carbon dioxide or dry powder. Unsuitable extinguishing Media: DO NOT USE Water.

5.2 Special hazards arising from the substance or mixture Specific hazards: Oxides of carbon formed on combustion.

5.3 Advice for firefighters Special firefighting procedures/protective actions:

• Containers close to fire should be removed or cooled with water.

• Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

Section 6 – Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures. Personal precautions:

• Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate.

• In case of spills, beware of slippery floors and surfaces.

6.2 Environmental precautions Environmental Precautions: No known negative effects on aquatic environment

6.3 Methods and material for containment and cleaning up .Spill Clean Up Methods:

• Contain and absorb spillage with sand, earth or other non-combustible material.

• Collect and place in suitable waste disposal containers and seal securely.

• Label the containers containing waste and contaminated materials and remove from the area as soon as possible.

• Wash thoroughly after dealing with a spillage.

6.4 Reference to other sections Reference to other sections:

• Section 8 – Exposure controls/ personal protection for further information on personal precautions.

• Section 13 – Disposal considerations for further information on waste treatment.

Section 7 – Handling and storage

7.1 Precautions for safe handling Usage precautions: Handle all packages and containers carefully to minimise spills.

7.2 Conditions for safe storage, including any incompatibilities Storage: Storage Precautions:

• Store in tightly-closed, original container in a dry, cool and well ventilated place.

• Keep away from heat, sparks and open flame.

• Protect from freezing and direct sunlight. Suitable Packaging: No additional data available.

7.3 Specific end use(s) End Uses: No additional data available.

Section 8: exposure Controls/Personal Protection

8.1 Control parameters Protective Equipment: Components with workplace control parameters: No additional data available.

8.2 Exposure controls Engineering Measures: No special measures required.

Respiratory Equipment: • No specific recommendations.

• Respiratory protection may be required if excessive airborne contamination occurs.

• Ensure area is well ventilated.

Hand Protection: Wear protective gloves.

Eye Protection: Wear eye protection (safety googles or face shield).

Other Protection: No special measures required.

Hygiene Measures: Good personal hygiene practises are always advisable especially when working with chemicals/ oils.

Personal protection: Avoid contact with skin and eyes.

Skin protection:

- Wear appropriate clothing to prevent any possibility of skin contact.
- Wear apron or protective clothing in case of contact. Environmental exposure controls: Avoid discharging into drainage water.

Section 9 – Physical and Chemical Properties

9.1 Information on basic physical and chemical properties Appearance: Powder. Colour: Cream to off white. Odour: Characteristic. Relative Density: No additional data available. Flash Point (°C): No additional data available. Refractive Index: No additional data available. Safety Data Sheet (H) 5 Melting Point (°C): No additional data available. Boiling Point (°C): No additional data available. Vapour Pressure: No additional data available. Solubility in Water @2 0°C: No additional data available. Auto-ignition temperature (°C): No additional data available.

9.2 Other information Other Information: No additional data available.

Section 10 – Stability and Reactivity

10.1 Reactivity: Stable under normal handling conditions.

10.2 Chemical stability: Chemically stable under the recommended handling and storage conditions.

10.3 Possibility of hazardous reactions, possible hazardous reactions: Will not polymerise.

10.4 Conditions to avoid Conditions to Avoid: Avoid heat, flames and other sources of ignition.

10.5 Incompatible materials Incompatible materials: Strong oxidising agents, strong acids, strong alkalis.

10.6 Hazardous decomposition products Hazardous Decomposition Products: Thermal decomposition or combustion may include the following substances: Oxides of carbon, oxides of nitrogen.

Section 11 – Toxicological Information

11.1 Information on toxicological effects.

Acute Toxicity: No Specific health hazards known.

Skin corrosion / Irritation:

- Powder may irritate skin. May cause allergic contact eczema.
- Prolonged or repeated exposure may cause the following adverse effects: Allergic rash.
- Get medical attention.

Serious eye damage / irritation: Particles in eyes may cause irritation and smarting.

Respiratory or skin sensitisation:

- Dust in high concentrations may irritate the respiratory system.
- May cause discomfort if swallowed.

Ingestion: No additional data available.

Germ Cell Mutagenicity: No additional data available.

Carcinogenicity: No additional data available.

Reproductive toxicity: No additional data available.

STOT-single exposure: No additional data available.

STOT-repeated exposure: No additional data available.

Aspiration hazard: No additional data available.

Photo-toxicity: No additional data available.

Other Information: No additional data available.

Section 12 – Ecological Information

12.1 Toxicity Ecotoxicity: No negative effects on the aquatic environment are known.

12.2 Persistence and degradability Persistence & degradability: The product is expected to be biodegradable.

12.3 Bioaccumulative potential: The product does not contain any substances expecting to be bioaccumulating.

12.4 Mobility in soil Mobility: The product is soluble in water.

12.5 Results of PBT and vPvB assessment PBT Assessment Results: This product does not contain any substances classified as PBT or vPvb.

12.6 Other adverse effects Precautions: None.

Section 13 – Disposal Considerations

13.1 Waste treatment methods.

Disposal Methods:

- Dispose of waste product or used containers in accordance with local regulations.
- Waste is suitable for incineration.

Section 14 – Transport Information

Warning Icon: Not Bound under transport regulations.

14.1 UN number UN No Road – ADR/RID: Not Bound under transport regulations. UN No Sea- IMDG: Not Bound under transport regulations. UN No Air – IATA: Not Bound under transport regulations.

14.2 UN proper shipping name Road – ADR/RID: Not Bound under transport regulations. Sea- IMDG: Not Bound under transport regulations. Air – IATA: Not Bound under transport regulations.

14.3 Transport hazard class(es) Road – ADR/RID: Not Bound under transport regulations. Sea- IMDG: Not Bound under transport regulations. Air – IATA: Not Bound under transport regulations.

14.4 Packing group Road – ADR/RID: None. Sea- IMDG: None. Safety Data Sheet (H) 7 Air – IATA: None.

14.5 Environmental hazards Environmentally hazardous substance/ marine pollutant: No.

14.6 Special precautions for user Precautions: See Section 6-8. 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Hazchem code: Not applicable.

Section 15 – Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Directives: Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18th Dec 2006 Concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 199/45/EC and repealing Council Regulation Council Regulation (EEC) No793/93 and Commission Regulation (EC) No1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, and 93/105/EEC and 2000/21/EC including amendments. Statutory Instruments: The Chemicals (Hazard Information and Packaging for Supply Regulations 2009 (S.I. 2009 No 716). Approved Code of Practice: Classification and Labelling of Substances and Preparations Dangerous for Supply. Safety Data Sheets for Substances and Preparations Guidance Notes: Workplace Exposure Limits EH40. CHIP for everyone HSG 108.

15.2 Chemical safety assessment information: A chemical assessment for this product has not been carried out.

Section 16 – Other Information

Risk Phrases in Full: None.

Hazard Statements in Full: None.

Other Information: None.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. The information contained in this SDS is accurate to the best of our knowledge and has been obtained from a variety of sources. No liability can be accepted arising out of the use, application or processing of this.

C053 - Alcohol

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

1.1. Product identifier Product form: Mixture Product name: Product code: C053 Type of product: Biocide

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses Main use category: Consumer use. Use of the substance/mixture: Skin Sanitizer

1.2.2. Uses advised against No additional information available 3

1.3. Details of the supplier of the safety data sheet.

1.4. Emergency telephone number Emergency number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture Classification according to Regulation (EC) No. 1272/2008 [CLP] Mixtures: SDS < 2015: Show CLP information only Flammable liquids, Category 2 H225 Full text of H statements: see section 16. Adverse physicochemical, human health and environmental effects No additional information available.

2.2. Label elements. Labelling according to Regulation (EC) No. 1272/2008 [CLP] Extra labelling to display. Extra classification(s) to display Hazard pictograms (CLP): GHS02 Signal word (CLP): Danger Hazard statements (CLP) : H225 - Highly flammable liquid and vapour. Precautionary statements (CLP): P102 - Keep out of reach of children. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 - Keep container tightly closed. P403+P235 - Store in a well-ventilated place. Keep cool.

2.3. Other hazards No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances Not applicable

3.2. Mixtures Name Product identifier % Classification according to Directive 67/548/EEC Classification according to Regulation (EC) No. 1272/2008 [CLP] ethanol; ethyl alcohol substance with national workplace exposure limit(s) (GB) (CAS-No.) 64-17-5 (EC-No.) 200-578-6 (EC Index-No.) 603-002-00-5 >= 60 F; R11 Flam. Liq. 2, H225 Full text of R- and H-statements: see section 16 STERILE CODE: C053.

SECTION 4: First aid measures

4.1. Description of first aid measures First-aid measures general: Get medical advice/attention if you feel unwell. First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. First-aid measures after eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. First-aid measures after ingestion: Do NOT induce vomiting. Rinse mouth. Drink plenty of water. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed Symptoms/effects after eye contact: Causes eye irritation. Symptoms/effects after ingestion: May cause a light irritation of the linings of the mouth, throat, and gastrointestinal tract. 4.3. Indication of any immediate medical attention and special treatment needed, treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media Suitable extinguishing media: Carbon dioxide. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture Fire hazard: Flammable liquid and vapour.

5.3. Advice for firefighters No additional information available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures General measures: Remove ignition sources.

6.1.1. For non-emergency personnel No additional information available

6.1.2. For emergency responders - no additional information available

6.2. Environmental precautions No additional information available

6.3. Methods and material for containment and cleaning up for containment: Collect spillage. Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

6.4. Reference to other sections for further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Additional hazards when processed: Handle empty containers with care because residual vapours are flammable. Precautions for safe handling: Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities Technical measures: Does not require any specific or particular technical measures. Storage conditions: Store in a well-ventilated place. Keep container tightly closed. Incompatible products: Oxidizing agent. Strong acids. Strong bases. Incompatible materials: Direct sunlight. Heat sources. Sources of ignition.

7.3. Specific end use(s) No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters ethanol; ethyl alcohol (64-17-5) United Kingdom Local name Ethanol United Kingdom WEL TWA (mg/m³) 1920 mg/m³ United Kingdom WEL TWA (ppm) 1000 ppm

8.2. Exposure controls Materials for protective clothing: Not required for normal conditions of use. Eye protection: Not required for normal conditions of use Skin and body protection: Not required for normal conditions of use Respiratory protection: Not required for normal conditions of use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties Physical state: Liquid Appearance: Mobile liquid. Colour: Colourless. Odour: characteristic. Odour threshold : No data available pH : 7 Relative evaporation rate (butylacetate=1) : No data available Melting point : No data available Freezing point : No data available Boiling point : ≈ 78.3 °C Flash point : ≈ 18 °C Auto-ignition temperature : No data available Decomposition temperature : No data available Flammability (solid, gas) : No data available Vapour pressure : No data available Relative vapour density at 20 °C : No data available Relative density : 0.87 Solubility : No data available Log Pow : No data available Viscosity, kinematic : No data available Viscosity, dynamic : No data available Explosive properties : No data available Oxidising properties : No data available Explosive limits : No data available

9.2. Other information - no additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity Flammable liquid and vapour.

10.2. Chemical stability Stable under normal conditions.

10.3. Possibility of hazardous reactions No additional information available

10.4. Conditions to avoid No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials No additional information available

10.6. Hazardous decomposition products No additional information available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects Acute toxicity (oral): Not classified. Acute toxicity (dermal) : Not classified Acute toxicity (inhalation) : Not classified Skin corrosion/irritation : Not classified pH: 7 Serious eye damage/irritation : Not classified pH: 7 Respiratory or skin sensitisation : Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Reproductive toxicity : Not classified STOT-single exposure : Not classified STOT-repeated exposure : Not classified Aspiration hazard : Not classified.

SECTION 12: Ecological information

12.1. Toxicity Acute aquatic toxicity : Not classified Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability No additional information available

12.3. Bioaccumulative potential No additional information available

12.4. Mobility in soil No additional information available

12.5. Results of PBT and vPvB assessment No additional information available

12.6. Other adverse effects No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods No additional information available.

SECTION 14: Transport information In accordance with ADR / IATA / IMDG

14.1. UN number UN-No. (ADR) : 1170 UN-No. (IMDG) : 1170 UN-No. (IATA) : 1170

14.2. UN proper shipping name Proper Shipping Name (ADR) : ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) Proper Shipping Name (IMDG) : ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) Proper Shipping Name (IATA) : Ethanol solution Transport document description (ADR) : UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II, (D/E) Transport document description (IMDG) : UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II Transport document description (IATA) : UN 1170 Ethanol solution, 3, II

14.3. Transport hazard class(es) ADR Transport hazard class(es) (ADR) : 3 Danger labels (ADR) : 3 : IMDG Transport hazard class(es) (IMDG) : 3 Danger labels (IMDG) : 3. IATA Transport hazard class(es) (IATA) : 3 Hazard labels (IATA) : 3 :

14.4. Packing group Packing group (ADR) : II Packing group (IMDG) : II Packing group (IATA) : II

14.5. Environmental hazards Dangerous for the environment: No Marine pollutant : No Other information : No supplementary information available

14.6. Special precautions for user Overland transport Classification code (ADR) : F1 Special provisions (ADR) : 144, 601 Limited quantities (ADR) : 1l Excepted quantities (ADR) : E2 Packing instructions (ADR) : P001, IBC02, R001 Mixed packing provisions (ADR) : MP19 Portable tank and bulk container instructions (ADR) : T4 Portable tank and bulk container special provisions (ADR) : TP1 Tank code (ADR) : LGBF Vehicle for tank carriage : FL Transport category (ADR) : 2 Special provisions for carriage - Operation (ADR) : S2, S20 Hazard identification number (Kemler No.) : 33 Orange plates : Tunnel restriction code (ADR) : D/E EAC code : •2YE Transport by sea Special provisions (IMDG) : 144 Limited quantities (IMDG) : 1 L Excepted quantities (IMDG) : E2 Packing instructions (IMDG) : P001 IBC packing instructions (IMDG) : IBC02 Tank instructions (IMDG) : T4 Tank special provisions (IMDG) : TP1 EmS-No. (Fire) : F-E EmS-No. (Spillage) : S-D Stowage category (IMDG) : A Air transport PCA Excepted quantities (IATA) : E2 PCA Limited quantities (IATA) : PCA limited quantity max net quantity (IATA) : 1L PCA packing instructions (IATA) : 353 PCA max net quantity (IATA) : 5L CAO packing instructions (IATA) : 364 CAO max net quantity (IATA) : 60L Special provisions (IATA) : A3, A58, A180 ERG code (IATA) : 3L 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code IBC code: Not applicable.

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations Contains no REACH substances with Annex XVII restrictions Contains no substance on the REACH candidate list Contains no REACH Annex XIV substances Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations No additional information available

15.2. Chemical safety assessment No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-statements: Flam. Liq. 2 Flammable liquids, Category 2 H225 Highly flammable liquid and vapour. SDS EU (REACH Annex II) This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

GLYCERINE

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

1.1. Product identifier Product name GLYCERINE. Product number 20124 Synonyms; trade names GLYCEROL, GLYCYL ALCOHOL, 1,2,3 PROPANETRIOL, PRICERINE, GLYCAMED, GLYCERINE 99.5% VEG, GLYCERINE MIN 99.5% PH, GLYCERINE VEG, GLYCERINE VEG FG/PH NCM, GLYCERINE VEG KOSHER FG/PH, GLYCERINE VEG KOSHER FG/PH UNR, GLYCERINE VEGETABLE 99.7%, PALMERA G995E, GLYCERIN SYNT. USP/EP 99.7%, GLYCERIN 99.5% VEG.

PH EUR, GLYCEROL E422 99.5% VEG., GLYCERIN 86.5% VEG, GLYCERIN 99,5%, VEGETABILISK, GLYCERIN MIN 99,5%, GLYCERIN MIN 99,5%, EUR PH, GLYCERIN MIN 99,5% USP, GLYCERIN PHARMA 85%, GLYCEROL E 422 86,5% VEG, GLYCEROL E 422 99,5% VEG SANTA MARIA, GLYCERINE VEG FG/PH KOSH NCM, GLYCERINE VEG FG/PH KSH REFNCM, GLYCERINE VEGETABLE 99.8%, PALMERA G995V, GLYCEROL 2, GLYCERINE 4813, GLYCERINE 4810, Kollisolv G99, GLYCERINE TECH VEG/ANIMAL, GLYCERINE PH EUR 86.5 %, PALMERA G995T, GLYCERINE 99.7%, GLYCERINE TECH GRADE, GLYCERINE FCC ED. 7, GLYCERINE 99.5% TECHNICAL, GLYCEROL 99.5% VEG, GLYCERINE ROO, MOON OU GLYCERINE, SUPEROL KPO GLYCERIN, GLYCAMED 99.7% KOSHER, GLYCERINE 4827, GLYCERINE VEG FG/PH 4808K, GLYCERINE 4810 K, GLYCERINE 4811, GLYCERINE USP-EP 99,7%, GLYCERINE 4811K, GLYCAMED 99.7%, GLYCERINE VEG 86.5% DEMIN, E-GLYCERIN FG KOSHER, GLYCERINE VEG FG/PH KOSHER, GLYCERINE USP/FCC KSH VNY REACH registration number 01-2119471987-18-XXXX CAS number 56-81-5 EC number 200-289-5

1.2. Relevant identified uses of the substance or mixture and uses advised against Identified uses Industrial application Cosmetics Pharmaceuticals Food industry Revision date: 27/07/2017 Revision: 15 Supersedes date: 04/07/2017 GLYCERINE

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture Classification (EC 1272/2008) Physical hazards Not Classified Health hazards Not Classified Environmental hazards Not Classified.

2.2. Label elements EC number 200-289-5 Hazard statements NC Not Classified

2.3. Other hazards This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances Product name GLYCERINE REACH registration number 01-2119471987-18-XXXX CAS number 56-81-5 EC number 200-289-5

SECTION 4: First aid measures

4.1. Description of first aid measures Inhalation Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues. Ingestion Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Give plenty of water to drink. Get medical attention if any discomfort continues. Skin contact Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues. Eye contact Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed Inhalation Gas or vapour in high concentrations may irritate the respiratory system. Eye contact May cause temporary eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Unsuitable extinguishing media. Do not use water jet as an extinguisher, as this will spread the fire. 2/ 9 Revision date: 27/07/2017 Revision: 15 Supersedes date: 04/07/2017 GLYCERINE

5.2. Special hazards arising from the substance or mixture Hazardous combustion products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters Special protective equipment for firefighters - wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures Personal precautions Avoid inhalation of vapours and contact with skin and eyes. Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation.

6.2. Environmental precautions Environmental precautions - do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up Methods for cleaning up Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.4. Reference to other sections Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Usage precautions Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s) Specific end use(s) The identified uses for this product are detailed in Section 1.2. +

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters Occupational exposure limits Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ mist WEL = Workplace Exposure Limit Ingredient comments WEL = Workplace Exposure Limits DNEL Industry - Inhalation; Long term local effects: 56 mg/m³ PNEC - Fresh water; 0.885 mg/l - Marine water; 0.0885 mg/l - Intermittent release; 8.85 mg/l - STP; 1000 mg/l - Soil; 0.141 mg/kg - Sediment (Freshwater); 3.3 mg/kg - Sediment (Marinewater); 0.33 mg/kg 3/ 9. 8.2. Exposure controls Protective equipment. Appropriate engineering controls Provide adequate ventilation. Eye/face protection - The following protection should be worn: Chemical splash goggles. EN 166 Hand protection Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. EN 374 Hygiene measures - wash at the end of each work shift and before eating, smoking and using the toilet. Respiratory protection In case of inadequate ventilation or when the product is heated, use suitable respiratory equipment with gas filter (type A2). EN 136/140/145/143/149

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties Appearance Liquid. Colour Colourless. Yellow. Orange. Odour No information available. Odour threshold No information available. pH pH (concentrated solution): 5 - 8 Melting point ~ 18°C Initial boiling point and range 290°C @ 760 mm Hg Flash point > 199°C PMCC (Pensky-Martens closed cup). Evaporation rate No information available. Evaporation factor No information available. Flammability (solid, gas) No information available. Upper/lower flammability or explosive limits No information available. Other flammability No information available. Vapour pressure < 1 Pa @ 20°C Vapour density No information available. Relative density 1.26 @ 20°C Bulk density No information available. Solubility(ies) Soluble in water. Soluble in the following materials: Ethanol. acetone Partition coefficient log Pow: -1.76 Auto-ignition temperature 370°C Decomposition Temperature No information available. Viscosity 1300 - 1500 mPa s @ 20°C Explosive properties No information available. Explosive under the influence of a flame No information available. Oxidising properties No information available.

9.2. Other information Other information No information required. Refractive index No information available. Particle size No information available. Molecular weight No information available. Volatility No information available. Saturation concentration No information available. Critical temperature No information available. Volatile organic compound No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity The following materials may react with the product: Oxidising materials. Acids.

10.2. Chemical stability The substance is hygroscopic and will absorb water by contact with the moisture in the air.

10.3. Possibility of hazardous reactions Possibility of hazardous reactions No information available.

10.4. Conditions to avoid Conditions to avoid excessive heat for prolonged periods of time. Water, moisture.

10.5. Incompatible materials to avoid Strong acids. Strong alkalis. Strong oxidising agents.

10.6. Hazardous decomposition products Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects Acute toxicity - oral Acute toxicity oral (LD_{50} mg/kg) 27,200.0 Species Rat ATE oral (mg/kg) 27,200.0 Skin corrosion/irritation Animal data No information available. 5/ 9 Revision date: 27/07/2017 Revision: 15 Supersedes date: 04/07/2017 GLYCERINE Serious eye damage/irritation Serious eye damage/irritation No information available. Respiratory sensitisation Respiratory sensitisation No information available. Skin sensitisation Skin sensitisation No information available. Germ cell mutagenicity Genotoxicity - in vitro No information available. Carcinogenicity No information available. Reproductive toxicity Reproductive toxicity - fertility No information available. Specific target organ toxicity - single exposure STOT - single exposure No information available. Specific target organ toxicity - repeated exposure STOT - repeated exposure No information available. Aspiration hazard Aspiration hazard No information available. Inhalation Gas or vapour in high concentrations may irritate the respiratory system. Ingestion May cause discomfort if swallowed. Skin contact No specific health hazards known. Eye contact May cause temporary eye irritation.

SECTION 12: Ecological Information Ecotoxicity. The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.1. Toxicity Not considered toxic to fish. Acute toxicity - fish LC50, 96 hours: 54000 mg/l, Onchorhynchus mykiss (Rainbow trout) Acute toxicity - aquatic invertebrates EC_{50}, 24 hours: > 10000 mg/l, Daphnia magna Acute toxicity - aquatic plants EC_{50}, 72 hours: > 2900 mg/l, Freshwater algae Acute toxicity - microorganisms EC_{50}, : > 1000 mg/l, Activated sludge

12.2. Persistence and degradability Persistence and degradability The product is biodegradable.

12.3. Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating. 6/ 9 Revision date: 27/07/2017 Revision: 15 Supersedes date: 04/07/2017 GLYCERINE Partition coefficient log Pow: -1.76

12.4. Mobility in soil Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods General information Waste should be treated as controlled waste. Do not puncture or incinerate, even when empty. Disposal methods - dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information General. The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number not applicable.

14.2. UN proper shipping name Not applicable.

14.3. Transport hazard class(es) No transport warning sign required.

14.4. Packing group Not applicable.

14.5. Environmental hazards environmentally hazardous substance/marine pollutant No.

14.6. Special precautions for user Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture 7/ 9 Revision date: 27/07/2017 Revision: 15 Supersedes date: 04/07/2017 GLYCERINE EU legislation 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) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. Inventory Information EINECS TSCA AICS DSL ECL ENCS IECS NZIOC PICCS 15.2. Chemical safety assessment - a chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet ATE: Acute Toxicity Estimate. ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. CAS: Chemical Abstracts Service. DNEL: Derived No Effect Level. IATA: International Air Transport Association. IMDG: International Maritime Dangerous Goods. Kow: Octanol-water partition coefficient. LC_{50}: Lethal Concentration to 50 % of a test population. LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose). PBT: Persistent, Bioaccumulative and Toxic substance. PNEC: Predicted No Effect Concentration. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. vPvB: Very Persistent and Very Bioaccumulative. IARC: International Agency for Research on Cancer. MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. cATpE: Converted Acute Toxicity Point Estimate. BCF: Bioconcentration Factor. BOD: Biochemical Oxygen Demand. EC_{50}: 50% of maximal Effective Concentration. LOAEC: Lowest Observed Adverse Effect Concentration. LOAEL: Lowest Observed Adverse Effect Level. NOAEC: No Observed Adverse Effect Concentration. NOAEL: No Observed Adverse Effect Level. NOEC: No Observed Effect Concentration. LOEC: Lowest Observed Effect Concentration. DMEL: Derived Minimal Effect Level. EL50: Exposure Limit 50 hPa: Hectopascal LL50: Lethal Loading fifty OECD: Organisation for Economic Co-operation and Development POW: Octanol-water partition coefficient SCBA: self-contained breathing apparatus STP: Sewage Treatment Plant VOC: Volatile Organic Compounds 8/ 9 Revision date: 27/07/2017 Revision: 15 Supersedes date: 04/07/2017 GLYCERINE Classification abbreviations and acronyms Acute Tox. = Acute toxicity Aquatic Acute = Hazardous to the aquatic environment (acute) Aquatic Chronic = Hazardous to the aquatic environment (chronic) Key literature references and sources for data Supplier's information. Revision comments NOTE: Lines within the margin indicate significant changes from the previous revision.

Propylene Glycol

Section 1: Identification of the substance/mixture

1.1 Product Identifier Trade Name: Propylene Glycol INCI: Propylene Glycol.

1.2 Relevant identified uses of the substance or mixture and uses advised against.

Section 2 – Hazards Identification

2.1 Classification of the substance or mixture Classification (1999/45): Not Classified. Classification (EC 1272/2008): This product does not meet the criteria for classification in any Safety Data Sheet according to 1907/2006/EC, Article 31, amended by Regulation (EU) No. 453/2010 PROPYLENE GLYCOL Safety Data Sheet (H) 2 hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

2.2 Label elements Label in accordance with (EC) No 1272/2008: Not Classified.

2.3 Other hazards Signal Word: Not Classified. Contains: Not Classified. Hazard Statements: Not Classified. Precautionary Statements: Not Classified. Supplementary Precautionary Statements: Not Classified. PBT or vPvB according to Annex XIII: No additional data. Adverse physio-chemical properties: No additional data. Adverse effects on human health: No additional data.

Section 3 – Composition/Information on Ingredients

3.1 Substances PROPYLENE GLYCOL 60-100% CAS number: 57-55-6 EC number: 200-338-0 Classification: Not Classified.

3.2 Mixtures.

Section 4 – First Measures

4.1 Description of first aid measures. General Information: No specific recommendations. Inhalation: Move affected person to fresh air at once. Get medical attention if any discomfort continues. Ingestion: If necessary, rinse mouth and provide fresh air. Get medical attention if any discomfort continues. Skin Contact: Wash skin thoroughly with soap and water. Eye Contact: Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

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

Section 5 – Fire Fighting Measures

5.1 Extinguishing media Safety Data Sheet (H) 3 extinguish with the following media: Foam, carbon dioxide or dry powder.

5.2 Special hazards arising from the substance or mixture Oxides of carbon.

5.3 Advice for firefighters Special Fire Fighting Procedures: Containers close to fire should be removed or cooled with water. Protective Measures in Fire: Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

Section 6 – Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. In case of spills, beware of slippery floors and surfaces.

6.2 Environmental precautions No negative effects on the aquatic environment are known.

6.3 Methods and material for containment and cleaning up Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal

containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Wash thoroughly after dealing with a spillage.

6.4 Reference to other sections.

Section 7 – Handling and Storage

7.1 Precautions for safe handling Handle all packages and containers carefully to minimise spills.

7.2 Conditions for safe storage, including any incompatibilities Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Protect from freezing and direct sunlight.

7.3 Specific end use(s).

Section 8 – Exposure Controls/Personal Protection

8.1 Control parameters.

8.2 Exposure controls Protective Equipment: Safety Data Sheet (H) 4 Engineering Measures: No additional data.

Respiratory Equipment: No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

Hand Protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.

Eye Protection: Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Other Protection: Wear appropriate clothing to prevent any possibility of skin contact. Wear apron or protective clothing in case of contact.

Hygiene Measures: No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.

Section 9 – Physical and Chemical Properties

9.1 Information on basic physical and chemical properties Appearance: Liquid. Colour: Colourless. Odour: Odourless. Relative Density: ~ 1.038 @ 20°C Flash Point (°C): > 113°C Refractive Index: ~ 1.432 @ 20°C Melting Point (°C): No additional data. Boiling Point (°C): No additional data. Vapour Pressure: No additional data. Solubility in Water @20°C: No additional data. Auto-ignition temperature (°C): No additional data.

9.2 Other information.

Section 10 – Stability and Reactivity

10.1 Reactivity.

10.2 Chemical stability Stable at normal ambient temperatures.

10.3 Possibility of hazardous reactions.

10.4 Conditions to avoid heat, flames and other sources of ignition.

10.5 Incompatible materials Strong oxidising agents. Safety Data Sheet (H) 5 Strong acids. Strong alkalis.

10.6 Hazardous decomposition products. Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Oxides of nitrogen.

Section 11 – Toxicological Information

11.1 Information on toxicological effects.

Acute Toxicity: No specific health hazards known.

Skin corrosion / irritation: No specific health hazards known.

Serious eye damage / irritation: No specific health hazards known.

Respiratory or skin sensitisation: No specific health hazards known.

Germ Cell Mutagenicity: No specific health hazards known.

Carcinogenicity: No specific health hazards known.

Reproductive toxicity: No specific health hazards known.

STOT-single exposure: No specific health hazards known.

STOT-repeated exposure: No specific health hazards known.

Aspiration hazard: No specific health hazards known.

No harmful effects expected from quantities likely to be ingested by accident.

Photo-toxicity: No specific health hazards known.

Other Information: May cause allergic contact eczema. Prolonged or repeated exposure may cause the following adverse effects:

Allergic rash. Get medical attention.

Section 12 – Ecological Information

12.1 Toxicity Ecotoxicity: No negative effects on the aquatic environment are known.

12.2 Persistence and degradability The product is expected to be biodegradable.

12.3 Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

12.4 Mobility in soil 12.5 Results of PBT and vPvB assessment. This product does not contain any substances classified as PBT or vPvB.

12.6 Other adverse effects Precautions: No additional data available.

Section 13 – Disposal Considerations

13.1 Waste treatment methods.

Disposal Methods: Safety Data Sheet (H) 6 Waste is suitable for incineration. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Section 14 – Transport Information

Warning Icon: The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1 UN number UN No. Road: Not applicable. UN No. SEA: Not applicable. UN No. AIR: Not applicable.

14.2 UN proper shipping name Not applicable.

14.3 Transport hazard class(es) ADR Class: Not applicable. IMDG Class: Not applicable. Air Class: Not applicable.

14.4 Packing group IMDG Pack Gr.: Not applicable. Air Pack Gr.: Not applicable.

14.5 Environmental hazards.

14.6 Special precautions for user Hazard No (ADR): Not applicable. Hazchem Code: Not applicable. EMS: Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code.

Section 15 – Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Directives: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). 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) (as amended). Statutory Instruments: - Approved Code of Practice: - Guidance Notes: Workplace Exposure Limits EH40.

15.2 Chemical safety assessment.

Section 16 – Other Information

Risk Phrases in Full: - Hazard Statements in Full: - Other Information: - This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. The information contained in this SDS is accurate to the best of our knowledge and has been obtained from a variety of sources. No liability can be accepted arising out of the use, application or processing of this product. It is the users' responsibility to determine the safe conditions for the use of this product. Revision Date: 31.10.2017 Version: 1.

Triethanolamine

SECTION 1: Identification of the substance/mixture.

1.1 Product identifiers Product name: Triethanolamine CAS-No. : 102-71-6.

1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses : Laboratory chemicals, Industrial & for professional use only.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture. Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to Directive 67/548/EEC.

2.2 Label elements - The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances Synonyms : 2,2',2''-Nitrilotriethanol Tris(2-hydroxyethyl)amine Formula : C6H15NO3 Molecular Weight : 149,19 g/mol CAS-No. : 102-71-6 EC-No. : 203-049-8 No components need to be disclosed according to the applicable regulations.

SECTION 4: First aid measures

4.1 Description of first aid measures. If inhaled If breathed in, move person into fresh air. If not breathing, give artificial respiration. In case of skin contact Wash off with soap and plenty of water. In case of eye contact. Flush eyes with water as a precaution. If swallowed Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed. The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed no data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture Carbon oxides, nitrogen oxides (NOx)

5.3 Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Avoid breathing vapours, mist or gas. For personal protection see section 8.

6.2 Environmental precautions. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up Keep in suitable, closed containers for disposal.

6.4 Reference to other sections For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities Store in cool place. Keep container tightly closed in a dry and well-ventilated place. hygroscopic

7.3 Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters Components with workplace control parameters

8.2 Exposure controls Appropriate engineering controls. General industrial hygiene practice. Personal protective equipment Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Body Protection impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Respiratory protection Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and

components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Control of environmental exposure Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties a) Appearance Form: viscous Colour: colourless b) Odour no data available c) Odour Threshold no data available d) pH 10,5 - 11,5 at 149 g/l at 25 °C e) Melting point/freezing Melting point/range: 17,9 - 21 °C point f) Initial boiling point and 190 - 193 °C at 7 hPa boiling range g) Flash point 179 °C - closed cup h) Evaporation rate no data available i) Flammability (solid, gas) no data available j) Upper/lower Upper explosion limit: 8,5 %(V) flammability or Lower explosion limit: 1,3 %(V) explosive limits k) Vapour pressure no data available l) Vapour density 5,15 - (Air = 1.0) m) Relative density 1,124 g/mL at 25 °C n) Water solubility 149 g o) Partition coefficient: n- no data available octanol/water p) Auto-ignition no data available temperature q) Decomposition no data available temperature r) Viscosity no data available s) Explosive properties no data available t) Oxidizing properties no data available 9.2 Other safety information Relative vapour density 5,15 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity no data available

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions no data available

10.4 Conditions to avoid Air Exposure to moisture. Light.

10.5 Incompatible materials Acids, Oxidizing agents

10.6 Hazardous decomposition products Other decomposition products - no data available In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Acute toxicity LD50 Oral - mouse - 5.846 mg/kg Remarks: Behavioural convulsions or effect on seizure threshold. Diarrhoea Kidney, Ureter, Bladder: Other changes. LD50 Oral - rat - 5.530 mg/kg Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye: Lacrimation. Diarrhoea Skin and Appendages: Other: Hair. LD50 Oral - rabbit - 2.200 mg/kg LD50 Oral - guinea pig - 2.200 mg/kg LD50 Dermal - rabbit - > 22,5 g/kg Skin corrosion/irritation Skin - rabbit Result: No skin irritation Serious eye damage/eye irritation Eyes - rabbit Result: No eye irritation Respiratory or skin sensitisation no data available. Germ cell mutagenicity no data available Carcinogenicity IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (2,2',2''-Nitrilotriethanol) Reproductive toxicity no data available Specific target organ toxicity - single exposure no data available Specific target organ toxicity - repeated exposure no data

available Aspiration hazard no data available Additional Information RTECS: KL9275000 Kidney injury may occur., Dermatitis Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1 Toxicity to fish LC50 - Lepomis macrochirus (Bluegill) - 450 - 1.000 mg/l - 96 h Toxicity to daphnia and EC50 - Daphnia - 609,98 mg/l - 48 h other aquatic invertebrates 12.2 Persistence and degradability Biodegradability Result: 96 % - Readily biodegradable. 12.3 Bioaccumulative potential no data available 12.4 Mobility in soil no data available 12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted 12.6 Other adverse effects no data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods Product Offer surplus and non-recyclable solutions to a licensed disposal company. Contaminated packaging Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number ADR/RID: -

14.2 UN proper shipping name ADR/RID: Not dangerous goods IMDG: Not dangerous goods IATA: Not dangerous goods

14.3 Transport hazard class(es) ADR/RID: -

14.4 Packaging group ADR/RID: -

14.5 Environmental hazards ADR/RID: no

14.6 Special precautions for user no data available

SECTION 15: Regulatory information

IMDG: - IATA: - IMDG: - IATA: - IMDG: - IATA: - IMDG Marine pollutant: no IATA: no This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture no data available.

15.2 Chemical Safety Assessment For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Further information 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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage

resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.

Carbomer

Section 1 – Identification of the product

1.1 Product Name： TC-CARBOMER 990

1.2 INCI Name： CARBOMER

1.3 CAS NO.： 9003-01-4

1.4 Chemical family： Polyacrylic acid.

Section 2 – Hazards Identification

2.1 Appearance White powder.

2.2 Odor Slight acetic.

2.3 Classification: Hazardous to the aquatic environment (acute hazard) category 3.

2.4 Target Organs： Not determined.

2.5 Signal Word： Not determined.

2.6 Hazard statement： Harmful to aquatic life.

2.7 Other Hazards： None identified.

2.8 Precaution(s)： Avoid release to the environment.

2.9 Response： In case of fire: Use CO2, dry chemical, foam, water spray or water fog for extinction. Carbon dioxide may be ineffective on larger fires due to a lack of cooling capacity which may result in resignation. Avoid hose stream or any method which will create dust clouds. If on skin： Gently wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. If in eyes： Rinse cautiously with water for several minutes. Get medical attention. If inhaled： If experiencing respiratory symptoms: Call a POISON CENTER or doctor. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If swallowed Call a POISON CENTER or doctor if you feel unwell. Treat symptomatically.

2.10 Storage Procedures： Store in a cool, dry, well-ventilated location. Store in a closed container.

2.11 Disposal： All disposal practices must be in accordance with local, national and international regulations. See Section 11 for complete health hazard information.

Section 3 – Composition/Information on ingredients

Hazardous Ingredients： Chemical Name CAS No. Weight % Residual acrylic acid 79-10-7 ≤0.25 Residual Dicloromethane 75-09-2 0.20.

Section 4 –

4.1 Eye Contact： Immediately flush eyes with plenty of one percent (1%) physiological saline solution for five (5) minutes while holding eyelids open. If no saline is available, flush with plenty of clean water for fifteen (15) minutes. See a physician. Water (moisture) swells this product into a gelatinous film which may be difficult to remove from the eye using only water.

4.2 Skin Contact： Wash with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse.

4.3 Inhalation: Remove exposed person to fresh air if adverse effects are observed. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If irritation persists or if toxic symptoms are observed, get medical attention.

4.4 Ingestion： Treat symptomatically. Get medical attention.

4.5 Advice for the protection of first-aid providers. When providing first aid always protect yourself against exposure to chemicals or blood borne diseases by wearing gloves, masks and eye protection. If providing CPR use mouthpieces, resuscitation bags, pocket masks or other ventilation devices. After providing first aid wash your exposed skin with soap and water.

4.6 Note to physicians: Treat symptomatically.

Section 5 – Fire Fighting Measures

5.1 Flash Point： Not Applicable.

5.2 Fire and explosive properties Min. Explosive Concentration 0.13 oz/ft3 (130 g/m3) Min. Ignition Energy > 0.03 joules Max. Rate of Pressure Rise 5500 psi/sec @ 0.5 oz/ft3 (379.21 bar/s @ 501 g/m3) Max. Pressure of Explosion 70 psi @ 0.5 oz/ft3 (4.83 bar @ 501 g/m3) Volume Resistivity 0.32 x 10+15 ohm-cm. Explosion Severity 2.02 (Severe) Ignition Temperature of Dust Cloud 520 °C (968 °F). This product has a high volume resistivity and a

propensity to build up static electricity which may be discharged as a spark. A spark can be an ignition source for solvent vapour/air mixtures. If you add this product to a solvent, ensure appropriate safe handling practices such as provision for inserting flammable vapours. As with all organic dusts, fine particles suspended in air in critical proportions and in the presence of an ignition source may ignite and/or explode. Dust may be sensitive to ignition by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. As a precaution, implement standard safety measures for handling finely divided organic powders.

5.3 Extinguishing Media： CO2, dry chemical, foam, water spray, water fog. Carbon dioxide may be ineffective on larger fires due to a lack of cooling capacity which may result in resignation. Avoid hose stream or any method which will create dust clouds.

5.4 Unsuitable Extinguishing Media： Not determined.

5.5 Firefighting Procedures: Wear full protective fire gear including self-containing breathing apparatus operated in the positive pressure mode with full face piece, coat, pants, gloves and boots.

5.6 Unusual fire / explosion hazards： Solid does not readily release flammable vapours. Material can form an explosive organic dust air mixture. See section 10 for additional information.

Section 6 – Accidental Release Measures

6.1 Personal precaution, protective equipment and emergency Procedures: Personal protective equipment must be worn. Caution - this material is slippery when wet.

6.2 Environmental precaution and protective procedures: Take precautions to avoid release to the environment. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

6.3 Methods for clean-up and removal: Pick up free solid for recycle and/or disposal. Avoid raising a dust. Wash spill area with detergent.

Section 7 – Handling and Storage

7.1 Handling： Keep material away from heat, sparks, pilot lights, static electricity and open flame. Avoid creating dust. Maintain good housekeeping practices. Avoid drinking, tasting, swallowing or ingesting this product. Avoid inhalation of dust, aerosol, mist, spray, fume, or vapour. Use with appropriate and adequate ventilation. Ground and bond containers when transferring material. Avoid prolonged skin contact. Launder contaminated clothing before reuse. Dispose of packaging or containers in accordance with local, regional, national and international regulations.

7.2 Storage： Take precautions to avoid release to the environment. Store in a cool, dry, well-ventilated area. Keep container closed when not in use.

Section 8 – Exposure Controls/Personal Protection

8.1 Exposure Limits： Comp CAS No. Long Term (8 Hours T.W.A.) Short Term (15 mins.) EU Not applicable. Australia Acrylic acid 79-10-7 2 ppm N/E Material Safety Data Sheet DOC NO. ：TC-TE-RES-002:012 3/5 Version：A/2 Last update：2014-04-03 Tinci (R) TC-CARBOMER 990 Page 3 of 5 New Zealand Acrylic acid 79-10-7 2 ppm N/E.

8.2 Other Exposure Limits： The industry-recommended permissible exposure limit for respirable polyacrylate dusts is 0.05 mg/m3 .

8.3 Engineering Controls： If use generates a dust, local exhaust ventilation is recommended. Prevent inhalation by providing effective general and, when necessary, local exhaust ventilation to draw dust away from workers. Avoid high concentrations of dust in air and accumulation of dust on equipment.

8.4 Personal Protective Equipment Respiratory Protection： Use respirator with a High Efficiency Particulate Air (HEPA) filter if the recommended exposure limit is exceeded Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator. Eye Protection： Safety glasses or goggles. Hand Protection： Use good industrial hygiene practices to avoid skin contact. If contact with the material may occur wear chemically protective gloves. Clothing Recommendation： Long sleeve shirt is recommended. Hygiene Measures： Wash thoroughly after handling this product.

Section 9 – Physical and Chemical Properties

9.1 Physical State： White powder

9.2 Odor: Slight acetic

9.3 PH (@ 0.5% in H2O)： 3.0 – 4.5

9.4 Evaporation rate: Non-volatile

9.5 Water Solubility： Material will swell in water.

9.6 Loss by drying：: ≤ 2.0 %

9.7 Vapour pressure: Not Applicable

9.8 Melting point Not available

9.9 Vapour density: Non-volatile

9.10 Bulk Density: 0.215 - 0.255 g/mL

9.11 Flash Point： Not Applicable

9.12 Auto ignition Point 520 °C (968 °F) 9.13 Explosion Data： Dust can form explosive mixtures in the air.

Section 10 – Stability and Reactivity

10.1 Chemical Stability： Material is normally stable at moderately elevated temperatures and pressures.

10.2 Incompatibility with other materials: Heat may be generated if polymer comes in contact with strong basic materials like ammonia, sodium hydroxide or strong basic amines.

10.3 Polymerization： Will not occur.

10.4 Decomposition Temperature： Not determined.

10.5 Thermal Decomposition： Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion.

10.6 Conditions to Avoid： Not determined.

Section 11 – Toxicological Information

11.1 ACUTE EXPOSURE

Eye Irritation Not expected to cause eye irritation. Based on data from similar materials. Particulates may cause mechanical irritation. Solid particles (powder or dust) on the eye may cause pain and irritation. Skin Irritation Not expected to be a primary skin irritant. Based on data from similar materials. Contact dermatitis may occur in sensitive individuals under extreme and unusual conditions of prolonged and repeated contact, such as high exposure accompanied by elevated temperature and occlusion by clothing. This effect may be the result of the product's hygroscopic properties, abrasion, or pH. Respiratory Irritation Breathing of dust may cause coughing, mucous production, and shortness of breath. Dermal Toxicity The LD50 in rabbits is > 5000 mg/Kg. Based on data from components or similar materials. Inhalation Toxicity Avoid inhalation of dust. Animal studies indicate the inhalation of respirable polyacrylate dust may cause inflammatory changes in the lung. Oral Toxicity The LD50 in rats is > 10,000 mg/Kg. Based on data from components or similar materials.

2014-04-03 Tinci (R) TC-CARBOMER 990 Page 4 of 5 Dermal Sensitization Not expected to cause skin sensitization. Based on data from components or similar materials. Inhalation Sensitization No data available to indicate product or components may be respiratory sensitizers. Aspiration Hazard Not determined.

11.2 CHRONIC EXPOSURE Chronic Toxicity. A two-year inhalation study in rats exposed to a respirable, water-absorbent sodium polyacrylate dust resulted in lung effects such as inflammation, hyperplasia, and tumors. There were no observed adverse effects at exposures of 0.05 mg/m3. In addition, long-term medical monitoring of potentially exposed workers has not revealed lung effects such as those observed in the rat. However, the inhalation of respirable dusts should be avoided by implementing respiratory protection measures and observing the recommended permissible exposure limit of 0.05 mg/m3 . Carcinogenicity Not listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA. Mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. Reproductive Toxicity No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity. Teratogenicity No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.

11.3 ADDITIONAL INFORMATION Pre-existing skin conditions may be aggravated by prolonged or repeated exposure. Persons with sensitive airways (e.g., asthmatics) may react to vapors. This material readily absorbs moisture and may become thick and gelatinous upon contact with mucous membranes of the eye, or upon inhalation into the nasal passages.

Section 12 – Ecological Information

12.1 ENVIRONMENTAL TOXICITY： Freshwater Fish Toxicity The acute LC50 is 100 - 1000 mg/L based on component data. Freshwater Invertebrates Toxicity The acute EC50 is 100 - 1000 mg/L based on component data. Chronic effects expected at 100 - 1000 mg/L based on component data. Algal Inhibition The acute EC50 is 10 - 100 mg/L based on component data. Bacteria Toxicity The acute EC50 is 100 - 1000 ppm based on component data.

12.2 ENVIRONMENTAL FATE Biodegradation At least 25% of the components in this product show limited biodegradation based on OECD 301-type test data. At least 25% of the components in this product show limited biodegradation based on OECD 302-type test data. Bioaccumulation Less than 1.0% of the components will not bioconcentrate, based on actual data.

Section 13 – Disposal Considerations

13.1 Disposal Method： All disposal practices must be in accordance with local, regional, national and international regulations. Do not dispose in landfill. Dispose of packaging or containers in accordance with local, regional, national and international regulations.

Section 14 – Transport Information

ICAO/IATA I Not regulated

ICAO/IATA II Not regulated

IMDG Not regulated

IMDG EMS Fire Not applicable.

IMDG EMS Spill Not applicable.

IMDG MFAG Not applicable.

MARPOL Annex II Not determined.

USCG Compatibility Not determined.

DOT NAERG 171

Section 15 – Regulatory Information

Global Chemical Inventories

USA All components of this material are on the US TSCA Inventory or are exempt.

Other TSCA Reg. None known.

EU All components are in compliance with the EC Seventh amendment Directive 92 /32/EEC.

Japan All components are in compliance with the Chemical Substances Control Law of Japan.

Australia All components are in compliance with chemical notification requirements in Australia.

New Zealand All components are in compliance with chemical notification requirements in New Zealand.

Canada All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.

Switzerland All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

Korea All components are in compliance in Korea.

Philippines All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

China All components of this product are listed on the Inventory of Existing Chemical Substances in China.

Section 16 – Other Information

16.1 US NFPA Codes： Health Fire Reactivity Special 1 1 0 N/E 16.4 HMIS Codes： Health Fire Reactivity 0 1 0 As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable state, and local laws and local regulations remains the responsibility of the user.

This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to develop appropriate work practice guidelines and employee instructional programs for your operation.

Polysorbate-20

Section 1 – Identification of Substance

1.1 Product name: Polysorbate 20 Product code: CU00015633.

Section 2 – Composition/Information on Ingredients

2.1 Definition/Botanical Origin: A mixture of laurate esters of sorbitol and sorbitol anhydrides, consisting of monoester, condensed with approximately 20 moles of ethylene oxide.

2.2 CAS No: 9005-64-5 Status: chemical Additives: none. Synonyms: Polyoxyethylene sorbitan monolaurate. CTFA monograph ID: 2451 Uses: Solubiliser, emulsifier. INCI Name: Polysorbate 20

Section 3 – Hazards Identification

3.1 Concentrated product. Do not ingest. Observe good housekeeping procedures.

Section 4 – First Aid Measures

4.1 INHALATION: Remove from exposure site to fresh air. Keep at rest. Obtain medical attention.

4.2 EYE CONTACT: Rinse immediately with plenty of water for at least 15 mins. Contact a doctor if symptoms persist.

4.3 SKIN CONTACT: Remove contaminated clothes. Wash thoroughly with soap & water, flush with plenty of water. If irritation persists, seek medical advice.

4.4 INGESTION: Rinse mouth out with water. Seek medical advice immediately.

4.5 OTHER: When assessing action take Risk & Safety Phrases into account (Section 15).

Section 5 – Fire Fighting Measures

5.1 EXTINGUISHING MEDIA Use CO2, Dry Powder or Foam type Extinguishers, spraying

5.2 RECOMMENDED: extinguishing media to base of flames. Do not use direct water jet on burning material.

5.3 SPECIAL MEASURES: Avoid vapour inhalation. Keep away from sources of ignition. Do not smoke. Wear positive pressure self-contained breathing apparatus & protective clothing.

5.4 EXTINGUISHING PROCEDURES: Closed containers may build up pressure when exposed to heat and should be cooled with water spray.

Section 6 – Accidental Release Measures

6.1 PERSONAL PRECAUTIONS: Avoid inhalation & direct contact with skin & eyes. Use individual protective equipment (safety glasses, waterproof-boots, suitable protective clothing) in case of major spillages.

6.2 ENVIRONMENT PRECAUTIONS: Keep away from drains, soils, surface & ground waters.

6.3 CLEANING UP METHODS Remove all potential ignition sources. Contain spilled material. Cover

6.4 FOR SPILLAGES: with an inert or non-combustible inorganic absorbent material, sweep up and remove to an approved disposal container. Observe state, federal & local disposal regulations.

Section 7 – Handling and Storage

7.1 PRECAUTIONS IN HANDLING: Apply good manufacturing practice & industrial hygiene practices, ensuring proper ventilation. Observe good personal hygiene, and do not eat, drink or smoke whilst handling.

7.2 STORAGE CONDITIONS: Store in tightly closed original container, in a cool, dry & ventilated area away from heat sources & protected from light. Keep air contact to a minimum.

7.3 FIRE PROTECTION: Keep away from ignition sources & naked flames. Take precautions to avoid static discharges in working area.

Section 8 – Exposure Controls/Personal Protection

8.1 RESPIRATORY PROTECTION: Avoid breathing product vapour. Apply local ventilation where possible.

8.2 VENTILATION: Ensure good ventilation of working area.

8.3 HAND PROTECTION: Avoid all skin contact. Use chemically resistant gloves if required.

8.4 EYE PROTECTION: Use safety glasses.

8.5 WORK/HYGIENE PRACTICES: Wash hands with soap & water after handling.

Section 9 – Physical and Chemical Properties

9.1COLOUR: Amber

9.2 APPEARANCE: Liquid

9.3 ODOUR: Odourless

9.4 SPECIFIC GRAVITY @ 20°C: 1.1 typical

9.5 pH: 7.0 typical

Section 10 – Stability and Reactivity

10.1 REACTIVITY: It presents no significant reactivity hazards, by itself or in contact with water. Avoid contact with strong acids, alkali or oxidising agents.

10.2 DECOMPOSITION: Liable to cause smoke & acrid fumes during combustion: carbon monoxide, carbon dioxide & other non-identified organic compounds may be formed.

Section 11 – Toxicological Information

11.1 LD50 > 2000mg/kg Oral Rat (from literature)

Section 12 – Ecological Information

12.1 ECOTOXICITY VALUE: Fish 96h LC50 >100mg/l (from literature)

12.2 BIODEGRADABILITY: Slightly biodegradable

12.3PRECAUTIONS: Prevent surface contamination of soil, ground & surface water.

12.4 PBT IDENTIFICATION: This substance is not listed as a PBT (Persistent Bioaccumulative and Toxic) substance.

Section 13 – Disposal Considerations

13.1 Dispose of according to local regulations.

13.2 Avoid disposing into drainage systems and into the environment.

Section 14 – Transport Regulations

14.1 Road (ADR/RID): n/a

14.2 SEA (IMDG): n/a

14.3 AIR (IATA): n/a

14.4 CHIP: See section 15.

Section 15 – Regulatory Information

15.1 HAZARDS: n/a

15.2 SYMBOLS: n/a

15.3 RISK PHRASES: n/a

15.4 SAFETY PHRASES: S36 Wear suitable protective clothing.

Section 16 – Other Information

16.1 PACKAGING:

Type Suitability

Glass	Yes
Lacquer lined Steel/Tin	Yes
Aluminium	Yes
HPPE	Yes
F/HDPE	No
Other Plastic	Yes
Paper/Poly Bags	No

16.2 SHELF LIFE When stored within advised conditions, re-test after 12 months and then at 6 monthly intervals. Q.C.

16.3 REQUIREMENTS. In-line with general product specification. Always satisfy suitability for specific application.

Colour E102 - Tartrazine

Section 1 - Identification

1.1 Product Name Tartrazine
1.2 Cat No. : AC191890000; AC191891000; AC191895000
1.3 CAS-No 1934-21-0
1.4 Synonyms Acid Yellow 23; C.I. 19140
1.5 Recommended Use Laboratory chemicals.
1.6 Uses advised against Not for food, drug, pesticide or biocidal product use.

Section 2 – Hazards Identification

2.1 Classification This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

2.2 Label Elements

Signal Word: Danger

2.3 Hazard Statements. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Respiratory Sensitization Category 1

Skin Sensitization Category 1

2.4 Precautionary Statements. Prevention: Avoid breathing dust/fume/gas/mist/vapors/spray. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves Inhalation

2.5 IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

2.6 Skin IF ON SKIN: Wash with plenty of soap and water If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse

2.7 Disposal - Dispose of contents/container to an approved waste disposal plant Hazards not otherwise classified

2.8 (HNOC) None identified.

Section 3 – Composition/Information on ingredients

Component CAS-No Weight % FD&C yellow No. 5 1934-21-0 > 85

Section 4 – First Aid Measures

4.1 General Advice If symptoms persist, call a physician.

4.2 Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

4.3 Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

4.4 Inhalation Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

4.5 Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

4.6 Most important symptoms and effects None reasonably foreseeable. . May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, light-headedness, chest pain, muscle pain or flushing.

4.7 Notes to Physician - Treat symptomatically.

Section 5 – Fire Fighting Measures

5.1 Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Unsuitable Extinguishing Media No information available

5.3 Flash Point No information available

5.4 Method - No information available

5.5 Auto ignition Temperature:

Explosion Limits: Upper No data available, Lower: No data available.

5.6 Sensitivity to Mechanical Impact: No information available.

5.7 Sensitivity to Static Discharge No information available.

5.8 Specific Hazards Arising from the Chemical: Keep product and empty container away from heat and sources of ignition.

5.9 Hazardous Combustion Products Nitrogen oxides (NOx) Carbon monoxide (CO) Carbon dioxide (CO2) Sulphur oxides.

5.10 Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 – Accidental Release Measures

6.1 Personal Precautions - Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

6.2 Environmental Precautions - Should not be released into the environment.

6.3 Methods for Containment and Clean Up Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.

Section 7 – Handling and Storage

7.1 Handling - Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

7.2 Storage - Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from water.

Section 8 – Exposure Controls/Person Protection

8.1 Exposure Guidelines. This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

8.2 Engineering Measures - Ensure adequate ventilation, especially in confined areas. Ventilation systems.

8.3 Personal Protective Equipment

Eye/face Protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Long sleeved clothing.

Respiratory Protection Wear a NIOSH/MSHA or European Standard EN 149 approved full-face piece airline respirator in the positive pressure mode with emergency escape provisions.

Section 9 - Physical and chemical properties

9.1 Physical State Powder Solid

9.2 Appearance Orange

9.3 Odour No information available

9.4 Odour Threshold No information available

9.5 pH 7.5 10 g/L aq.sol

9.6 Melting Point/Range > 300 °C / 572 °F

9.7Boiling Point/Range No information available

9.8 Flash Point No information available

9.9 Evaporation Rate Not applicable Flammability (solid, gas) No information available

9.10 Flammability or explosive limits Upper No data available Lower No data available

9.11 Vapor Pressure No information available

9.12 Vapor Density Not applicable

9.13 Specific Gravity No information available

9.14 Solubility Soluble in water

9.15 Partition coefficient; n-octanol/water No data available

9.16 Auto ignition: Temperature

9.17 Decomposition Temperature > 300°C

9.18 Viscosity Not applicable

9.19 Molecular Formula C16 H9 N4 Na3 O9 S2

9.20 Molecular Weight 534.35.

Section 10 - Stability and reactivity

10.1 Reactive Hazard None known, based on information available

10.2 Stability Hygroscopic.

10.3 Conditions to Avoid: Incompatible products. Exposure to moisture.

10.4 Incompatible Materials Strong oxidizing agents

10.5 Hazardous Decomposition Products Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2), Sulphur oxides

10.6 Hazardous Polymerization No information available.

10.7 Hazardous Reactions None under normal processing.

Section 11 - Toxicological information

11.1 Acute Toxicity:

Product Information

Oral LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

11.2 Component Information: Component LD50 Oral LD50 Dermal LC50 Inhalation FD&C yellow No. 5 12750 mg/kg (Mouse) Not listed Not listed

11.3 Toxicologically Synergistic

11.4 Products No information available

11.5 Delayed and immediate effects as well as chronic effects from short and long-term exposure

11.6 Irritation No information available

11.7 Sensitization: May cause an allergic skin reaction. May cause sensitization by inhalation

11.8 Carcinogenicity:

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
FD&C yellow No. 5	1934-21-0	Not listed	Not listed	Not listed	Not listed	Not listed

11.9 Mutagenic Effects No information available

11.10 Reproductive Effects No information available.

11.11 Developmental Effects No information available.

11.12 Teratogenicity No information available.

11.13 STOT - single exposure None known

STOT - repeated exposure None known

11.14 Aspiration hazard No information available

11.15 Symptoms / effects, both acute and delayed Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, light headedness, chest pain, muscle pain or flushing

11.16 Endocrine Disruptor Information No information available

11.17 Other Adverse Effects The toxicological properties have not been fully investigated.

Section 12 - Ecological information

12.1 Ecotoxicity

Component	**Freshwater Algae**	**Freshwater Fish**	**Microtox**	**Water Flea**
FD&C yellow No. 5	Not listed	LC50: > 1000 ppm/48 h (Oryzias latipes)	Not listed	Not listed

12.2 Persistence and Degradability Soluble in water: Persistence is unlikely based on information available.

12.3 Bioaccumulation/ Accumulation: No information available.

12.4 Mobility: Will likely be mobile in the environment due to its water solubility.

Section 13 - Disposal considerations

13.1 Waste Disposal Methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Section 14 - Transport information

DOT: Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

Section 15 - Regulatory information

15.1 All of the components in the product are on the following Inventory lists: X = listed

15.2 International Inventories

Component	TSCA	DSL	NDSL	EINECS
FD&C yellow No. 5	X	X	-	217-699-5

ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
-		X	X	X	X	X

Legend: X - listed

15.3 U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations Not applicable

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

15.4 Other International Regulations: Mexico - Grade No information available.

E129 Allure Red

Section 1 - Information of the substance

1.1 Commercial Product Allura red AC.
1.2 Synonyms C.I. Food Red #40 FD&C Red #40
1.3 Chemical Family(class) Mono azo dye
1.4 Chemical Name Di sodium salt of 2-hydroxy-1-(2-methoxy-5-methyl-4-sulfonatophen azo) naphthalene-6-sulfonate.

Section 2 - Chemical Characterization Information On Ingredients

2.1 E.E.C.No. E-129

EINECS. 247-368-0

CAS No. 25956-17-6

C.I.No. 16035

Molecular Formula $C_{18}H_{14}N_2O_8S_2Na_2$

Molecular Weight 496.42

According to documentation available is edible dye.

Section 3 - Physical and chemical properties

3.1 Physical State Solid Powder.

3.2 Colour Red.

3.3 Odor: Odorless

3.4 pH value 6-8

3.5 Boiling Point Not applicable

3.6 Melting Point No sharp melting point observed

3.7 Flash Point Not applicable

3.8 Substance does not having any oxidising property.

3.9 Ignition Temperature Not applicable

3.10 Explosion Limit Not applicable Vapour Pressure Not applicable

3.11 Density 0.80

3.12 Solubility in water 120 gms/litre.

Section 4 - Stability & Reactivity

4.1 Hazardous Reactions No

4.2 Hazardous Decomposition Product Not Established

4.3 Chemical In Compatibility Strong Reducing Agents, Decolourising Agents, Strong Acids & Alkalis

4.4 Condition To Avoid I) Heating To High Temperature II) Storage under damp atmosphere

4.5 Reactivity Data This material is stable under condition of normal handling and use, b sensitive to moist air.

Section 5 - Handling & Storage

5.1 Handling Avoid formation of dust

5.2 Storage Keep in closed container at ambient temperature & humidity

5.3 Do Not Store Together. Store Colour wise

Section 6 - Exposure Controls/Personal Protection

6.1 TLV No

6.2 Respirator Protection May be used (In case dust formation particle filter e.g. DIN 3181-21 may be)

6.3 Ventilation Local ventilation capable of minimising dust emission at the point of

6.4 Eye Protection Protective glasses may be used

6.5 Hand Protection Rubber gloves may be used wash the hands before and at the end of work with water, soap

Section 7 - Hazards Identification

7.1 Warnings : The usual precautions taken when handling of dyes should be observed. As the substance is edible dye, no hazardous to water supply.

Section 8 - First Aid Measures

8.1 Eye Contact Wash eyes with plenty of water for at least 15 minute.

8.2 Skin Contact Wash off with plenty of water & soap.

8.3 Ingestion Plenty full water to be taken inside, special medical attention may no necessary.

Section 9 - Accidental Release Measures

9.1 After Spillage Sweep up spilled substance carefully, then clean with water.

9.2 Absorbent Material Use clean cotton cloth.

Section 10 - Disposal Consideration

10.1 Can be sent to an incineration plant in accordance with local regulations

Section 11 - Fire Fighting Measures

11.1 Extinguishing Media Use dry chemicals or carbon dioxide CO2

11.2 Thermal Decomposition Dangerous decomposition is not anticipated.

Section 12 - Toxicological Information

12.1 LD 50 skin No adverse or pathological effect

12.2 LD 50 inhalation Not Known

12.3 Eye Irritation Not irritating to Eye

12.4 Dermal Irritation Not irritating to skin.

Section 13 - Ecological Information

13.1 Water Hazard Being an edible dye, Not established

Section 14 - Transport Information

14.2 Not Hazardous Cargo. Keep separated from hazardous chemicals.

Section 15 - Other Information

15.1 This product should be stored, handled and used in accordance with good industrial hygienic practices and in conformity with any legal regulation. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of health and safety requirements should not therefore be construed as guaranteeing specific properties