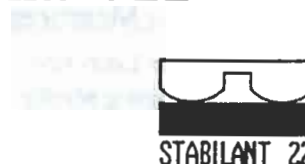


SAFETY DATA SHEET – Stabilant 22™

Expiration Date: 05/21/2018

Technical Note Number 1



1. Identification

1.1 Product Identification

Product Name/Commercial Name: Stabilant 22 (no synonyms)

1.2 Uses of Product or Mixture

Use: Electronic contact enhancer - a product to enhance electrical connections between two metal contacts under the effect of an electrical field.

1.3 Company Information

Supplier: D.W. Electrochemicals Ltd.

Address: 3-97 Newkirk Road,
Richmond Hill, Ontario
L4C 3G4, Canada

Tel: 905-508-7500

Fax: 905-508-7502

Contact Email: dwel@stabilant.com

1.4 Emergency Contact Numbers

Tel: 905-508-7500

Fax: 905-508-7502

2. Hazard Identification

2.1 Classification of Substance/Mixture

No need for classification according to GHS criteria.

2.2 Hazardous Ingredients:

per EPA / TSCA (U.S.A.) – None

per WHMIS (Canada) – None

2.3 Label Elements / Precautionary Statements

None

2.4 Other Hazards

None

3. Composition / Information on Ingredients

3.1 Substances

Chemical Name & Identity: Stabilant 22 (CAS 9003-11-6) - 100%

(a Modified Polyoxypypropylene-Polyoxyethylene Block Polymer, polyglycol family)

4. First Aid Measures

4.1 Description of First Aid Measures

In case of contact with skin: Wash with soap and water. Remove and wash contaminated clothing before re-use. Consult a physician if irritation develops at site of exposure.

In case of contact with eyes: Flush immediately with flowing water for a period of at least **10 minutes** and consult a physician.

In case of ingestion: Do not induce vomiting; Drink plenty of water and consult a physician.

In case of inhalation: If material is sprayed in large quantities, excessive aerosol inhalation will cause irritation, congestion and act as an expectorant. Consult a physician.

5. Fire-fighting Measures

5.1 Means of Extinction

Extinguishing Media: Water, Fog, CO₂ (Carbon Dioxide), Foam, Dry Chemical

Unsuitable Extinguishing Media: None

5.2 Specific Hazards arising from the substance

Combustion can produce toxic vapors including carbon monoxide (CO).

5.3 Protective Equipment and Precautions

Self-Contained Breathing Apparatus should be used when fighting a fire in a confined area or when exposed to contamination products.

5.4 Unusual Fire & Explosion Hazards

None

6. Accidental Release Measures

6.1 Precautions, Protective Equipment, Emergency Procedures

Ventilation: General mechanical ventilation is adequate

Respiratory Protection: Use an approved respirator if exposed to mists or aerosols

Protective Gloves: Rubber, Neoprene or Plastic when handling bulk amounts

Eye Protection: Goggles or Face shield when handling bulk amounts

Footwear: Non slip footwear when handling bulk amounts

Clothing: Plastic apron when handling bulk amounts

Other: Not required

6.2 Environmental Precautions

Prevent large amounts from entering drains, soil or ground water.

6.3 Clean Up of Leaks and Spills

Spilled material is quite slippery; it should be covered with absorbent anti-skid material and cleaned up immediately. Dispose of absorbent in accordance with local regulations.

7. Handling and Storage

7.1 Precautions for Safe Handling

Avoid contact with skin and eyes, or inhalation of vapour / mist.

Do not eat or drink or smoke during use.

When handling bulk amounts, observe physical safety precautions commensurate with the size of the container involved.

7.2 Conditions for Safe Storage

Store in a cool, dry location.

Keep containers closed after use.

7.3 Dilution

Precautions should be taken to be sure that diluted materials are properly labeled as to the diluent used.

8. Exposure Controls / Personal Protection

8.1 Control Parameters

Exposure Limits: No Tests Run – very low vapor pressure combined with the very low toxicity and the small surface areas of the material when applied to contacts suggests that for practical purposes it would be virtually impossible to reach an airborne concentration that would be injurious. Limited testing on skin exposure indicates no significant long term irritation or sensitization. We suggest a precautionary washing of the exposed areas with soap and water.

8.2 Appropriate Engineering Controls

None

8.3 Personal Protection Measures

Protection of the eyes: Safety goggles if handling large amounts

Protection of the skin: Plastic apron if handling large amounts

Protection of the hands: Rubber, Neoprene or Plastic gloves when handling large amounts

Respiratory Protection: Approved respirator or mask if spraying or misting may occur

8.4 Effects of Exposure

Acute Exposure: Oral, Skin or eye, limited tests indicate no significant long term irritation

Chronic Exposure: Oral, skin or eye, limited tests indicate no significant long term irritation

9. Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

- **Appearance and Colour:** Cloudy to clear liquid
- **Odour:** Faint, musty odour
- **Odour Threshold:** No data available
- **pH:** 5 to 7.5 @ 10 grams per litre
- **Melting Point:** Pour point 16° Celsius
- **Boiling Point:** None
- **Flash Point [method]:** 200° Celsius [C.O.C.]
- **Evaporation Rate:** No tests run
- **Flammability:** Will support combustion on decomposition - material temperature must have been raised above 200° Celsius
- **Lower Explosion Limit (% by volume):** No tests run
- **Vapour Pressure:** < 0.1 mmHg (25° Celsius)
- **Vapour Density:** No test run
- **Specific Gravity:** 1.05
- **Density:** 1.05 gms/ml
- **Bulk Density:** 1,040 kg/m³
- **Partition Coefficient (n-octanol/water):** No tests run
- **Auto-ignition Temperature:** No tests run
- **Decomposition Temperature:** > 210° Celsius
- **Dynamic Viscosity:** 490 mPa.s (25° Celsius)
- **Index of Refraction:** 1.454 @ 25° Celsius
- **Total Organic Carbon (TOC):** 28%

10. Stability and Reactivity

- 10.1 Reactivity**
Stable under normal conditions
- 10.2 Chemical Stability**
Stable under normal conditions
- 10.3 Possible Hazardous Reactions**
None known
- 10.4 Conditions to be Avoided**
Avoid fire / excessive temperatures.
- 10.5 Incompatible Materials**
Strong acids, strong bases, strong oxidizers
- 10.6 Hazardous Decomposition Products**
None known

11. Toxicological Information

- 11.1 Toxicological Effects**
 - **Acute Toxicity:** Mild; intestinal irritation with diarrhea if ingested.
 - **Skin Irritation:** Limited tests indicate no long-term irritation.
 - **Eye Irritation:** Limited tests indicate no long-term irritation.
 - **Inhalation:** Very low vapor pressure suggests that this would not be applicable.
 - **Sensitization to Material:** Limited tests indicate no sensitization effects
 - **Mutagenicity:** No tests run
 - **Carcinogenicity:** No tests run
 - **Reproductive Effects:** No tests run
 - **Teratogenicity:** No tests run
 - **Routes of Entry:** Oral - Do not ingest.
 - **Symptoms of Exposure:** Ingestion of moderate amounts may cause diarrhea.
 - **Chronic Effects:** Prolonged skin or eye contact may cause light temporary irritation.
- 11.2 Numeric Data on Toxicity:**
 - **LD₅₀ - Oral:** > 2,000 mg/kg (Tested on rats)

12. Ecological Information

- 12.1 Ecotoxicity:** At concentrations of up to 5ppm., no toxic reactions were noted
- 12.2 Persistence and Degradability:** No tests run – No Data
- 12.3 Bioaccumulative Potential:** No tests run – No Data
- 12.4 Mobility in Soil:** No tests run – No Data
- 12.5 Other Adverse Effects:** No Data

13. Disposal Considerations

- 13.1 Disposal of Waste**
 - This product is not a hazardous waste when discarded as defined in 40CFR261.337
 - This product is not a halogenated solvent when spent as defined 40CFR261.317
 - This product may be incinerated together with domestic waste so long as local regulations permit incineration: **Halogen Content:** 0 ppm, **Sulfur Content:** 0 ppm
 - No chelating agent action

14. Transport Information

- 14.1 **U.N. Number**
None
- 14.2 **U.N. Proper Shipping Name**
Not Applicable
- 14.3 **Transport Hazard Class**
Not Applicable
- 14.4 **Subsidiary Class**
None
- 14.5 **Packing Group**
Not Applicable
- 14.6 **Environmental Hazards**
Not Applicable
- 14.7 **Special Precautions**
None
- 14.8 **Transportation in bulk according to Annex II of MARPOL 73/78 and IBC code**
Not Applicable
- 14.9 **Other Information**
Not considered a dangerous good under DOT, IATA, ADR, IMDG or RID
- 14.10 **Schedule XII**
Not Applicable
(Harmonized Tariff Code) 8541.50.00.80

15. Regulatory Information

- 15.1 **Canada**
The material is on the 'Domestic Substance List' under "CEPA" (Not on NDSL)
- 15.2 **United States**
The materials in this product have been reviewed and are not reportable under SARA title III.
This material is included in the TSCA inventory.
OSHA Classification: Non hazardous
- 15.3 **Customs**
The material is classified as '*Semiconductor, Other*'
Harmonized Tariff Code 8541.50.00.80

16. Other Information

- 16.1 **Revision Information**
Revision 32
Preparation Date: May 22, 2015
Revision Changes: Updated to G.H.S. standard from previous revision.
- 16.2 **RoHS Legislation Article 4(1) pertaining to Heavy Metals and other prohibited components:**
D.W. Electrochemicals Ltd. has a policy of not allowing any intentional addition of any heavy metals, such as lead, cadmium, mercury or hexavalent chromium, or their compounds to be used in Stabilants or in the inks or labels on our packaging and requires the total concentration of these materials, if present to be so at a level of less than 100 parts per million and we so certify.
- 16.3 **Polybrominated biphenyls / polybrominated biphenyl ethers**
Stabilant contain no PBB's or PBDE's and we so certify.
- 16.4 **Ozone Depleting Chemicals**
Because of our corporate opposition to the use of ODC's either in the manufacture of, or as an inclusion in any of our products, D.W. Electrochemicals Ltd. has consistently refused to provide any of our products in aerosol spray packaging and/or to supply any of our materials diluted with any Class 1 ODC, and we so certify.

16.5 PolyChlorinated Biphenyls

We certify that this material has been subjected to tests capable of detecting PCB's to a level of less than 2 parts per million and no PCB's have been found.

16.6 Packaging

New standards are in place in an attempt to reduce the amount of plastics, tape and/or adhesives used and to ensure that our packaging may be reused or recycled.

16.7 Key to abbreviations and acronyms:

ADR = Accord Dangereuses Route (accord on dangerous good transport)
CAS = Chemical Abstracts Service
CEPA = Canadian Environmental Protection Act (1999)
CFR = Code of Federal Regulations (re: EPA)
DOT = U.S. Dept. of Transportation
EPA = U.S. Environmental Protection Agency
IATA = International Air Transport Association
IBC = International Bulk Chemical code (re: Maritime shipping)
IMDG = Int'l Maritime Dangerous Goods
LD₅₀ = Lethal Dose (solids & liquids), which kills 50% of test animals
MARPOL = MARine POLLution convention of '73/'78
NDSL = Non-Domestic Substance List (Can.)
OSHA = Occupational Safety and Health Administration (U.S.A.)
RID = Regulation of dangerous goods by rail (2008/68/EC)
SARA = Superfund Amendments and Reauthorization Act (U.S.A., re: EPA)
WHMIS = Workplace Hazardous Materials Information System

Patented Canada 1987, US Patent 4696832. Others Pending.

NATO/CAGE Supplier Code #38948

-15mL Stabilant 22 has NATO Stock Number 5999-21-909-9981



D.W. Electrochemicals Ltd. urges each customer or recipient of this MSDS to study it carefully to become aware of/and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology or fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe use and handling of this product, each customer or recipient should:

1. Notify employees, agents, contractors and others who may use this material, or the information in this MSDS and any other information regarding hazards or safety,
2. Furnish this same information to each customer for the product, and
3. Request customers to notify their employees, customer and other users of the product of this information.

The information and recommendations contained herein are based on data believed to be correct, however no guarantee or warranty of any kind, expressed or implied, is made with respect to information and recommendations contained herein except where certified.

RoHS Article 4(1) Compliant

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