PMD (UK) LIMITED

SAFETY DATA SHEET
GILDAURA 18MY ELECTROLYTE SALT

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

1.1. Product identifier

Product name GILDAURA 18MY ELECTROLYTE SALT

Product number 039006,039035,039005,998 133

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

Identified uses Plating agents and metal surface treating agents.

1.3. Details of the supplier of the safety data sheet

Supplier

PMD (UK) Limited
Broad Lane
Coventry
CV5 7AY
Tel: 024 764 666 91
Fax: 024 764 730 34

stevel@pmdgroup.co.uk

1.4. Emergency telephone number

Emergency telephone 024 764 666 91 (Mon-Fri 8.30-17.00)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified

Health hazards Acute Tox. 3 - H301 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Eye Irrit. 2 - H319 Elicitation - EUH208 Carc. 1B - H350 Repr. 1A - H360FD

Environmental hazards Aquatic Chronic 2 - H411

Classification (67/548/EEC or 1999/45/EC) Carc. Cat. 1;R45,R49,Repr. Cat. 2;R60,R61. Xn;R22. Xi;R36. N;R51/53. R32.

2.2. Label elements

Pictogram

Signal word Danger

GILDAURA 18MY ELECTROLYTE SALT

Hazard statements
H301 Toxic if swallowed.
H312+H332 Harmful in contact with skin or if inhaled.
H319 Causes serious eye irritation.
H350 May cause cancer.
H360FD May damage fertility. May damage the unborn child.
H411 Toxic to aquatic life with long lasting effects.
EUH208 Contains ORGANIC NICKEL SALT. May produce an allergic reaction.

Precautionary statements
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing vapour/spray.
P264 Wash contaminated skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental label information
RCH002b For professional users only.

Contains
POTASSIUM CYANATE, BORIC ACID, E.D.T.A disodium salt. dihydrate, GOLD POTASSIUM CYANIDE, ORGANIC CADMIUM SALT, ORGANIC NICKEL SALT

Supplementary precautionary statements
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352 IF ON SKIN: Wash with plenty of water.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P312 Call a POISON CENTER/doctor if you feel unwell.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.
P405 Store locked up.
P501 Dispose of contents/container in accordance with national regulations.

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

POTASSIUM CYANATE **10-30%**

CAS number: 590-28-3 | EC number: 209-676-3 | REACH registration number: 01-2119555275-36-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H302 Eye Irrit. 2 - H319	Xn;R22

SODIUM CARBONATE **10-30%**

CAS number: 497-19-8 | EC number: 207-838-8 | REACH registration number: 01-2119485498-19-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319	Xi;R36

GILDAURA 18MY ELECTROLYTE SALT

BORIC ACID **10-30%**

CAS number: 10043-35-3 EC number: 233-139-2 REACH registration number: 01-2119486683-25-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Repr. 1B - H360FD	Repr. Cat. 2;R60,R61

E.D.T.A disodium salt. dihydrate **5-10%**

CAS number: 6381-92-6 EC number: 205-358-3 REACH registration number: 01-2119486775-20-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H332 STOT RE 2 - H373	Xn;R20.

GOLD POTASSIUM CYANIDE **1-5%**

CAS number: 13967-50-5 EC number: 237-748-4

M factor (Chronic) = 1

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 2 - H300 Acute Tox. 2 - H310 Acute Tox. 2 - H330 Aquatic Chronic 1 - H410	T;R23/24/25. N;R50/53. R32.

ORGANIC CADMIUM SALT **<1%**

CAS number: —

M factor (Chronic) = 10

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 2 - H330 Muta. 2 - H341 Carc. 1B - H350 Repr. 2 - H361 STOT RE 1 - H372 Aquatic Chronic 1 - H410	Carc. Cat. 2;R45. Xn;R20/21/22.

GILDAURA 18MY ELECTROLYTE SALT

ORGANIC NICKEL SALT		<1%
CAS number: —		
M factor (Acute) = 1	M factor (Chronic) = 1	

Classification	Classification (67/548/EEC or 1999/45/EC)
Skin Irrit. 2 - H315 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Muta. 2 - H341 Repr. 1A - H360D Acute Tox. 4 - H302 Acute Tox. 4 - H332 STOT RE 1 - H372 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	T;R48/23. Carc. Cat. 3;R49,Repr. Cat. 1;R61. Xn;R20/22. Muta. Cat. 3;R68. Xi;R38. N;R50/53. R42/43.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information CAUTION! First aid personnel must be aware of own risk during rescue! Remove affected person from source of contamination. Get medical attention.

Inhalation Move affected person to fresh air at once. Get medical attention. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.

Ingestion Get medical attention immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person. Remove affected person from source of contamination. Give plenty of water to drink. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.

Skin contact Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention promptly if symptoms occur after washing.

Eye contact Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

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

Inhalation Harmful by inhalation.

Ingestion Toxic if swallowed.

Skin contact Harmful in contact with skin.

Eye contact May cause severe eye irritation.

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours.

GILDAURA 18MY ELECTROLYTE SALT

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 Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Do not touch or walk into spilled material. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. 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. Flush contaminated area with plenty of water. Inform authorities if large amounts are involved.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation. Avoid inhalation of vapours. Use approved respirator if air contamination is above an acceptable level.

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. Store in closed original container at temperatures between 5°C and 30°C.

Storage class Toxic storage.

7.3. Specific end use(s)

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

GOLD POTASSIUM CYANIDE

Long-term exposure limit (8-hour TWA): WEL 5 mg/m3(Sk)

ORGANIC CADMIUM SALT

Long-term exposure limit (8-hour TWA): WEL 0.025(Cd) mg/m³

WEL = Workplace Exposure Limit

POTASSIUM CYANATE (CAS: 590-28-3)

DNEL

Workers - Inhalation; Long term systemic effects: 25 mg/m³
Workers - Inhalation; Short term systemic effects: 81.8 mg/m³
Workers - Dermal; Long term systemic effects: 28.57 mg/kg/day
Workers - Dermal; Short term systemic effects: 100 mg/kg/day

GILDAURA 18MY ELECTROLYTE SALT

PNEC
- Fresh water; 0.018 mg/l
- Marine water; 0.0018 mg/l
- Intermittent release; 0.18 mg/l
- STP; 100 mg/l
- Sediment (Freshwater); 0.0914 mg/kg
- Sediment (Marinewater); 0.00914 mg/kg
- Soil; 0.0078 mg/kg

BORIC ACID (CAS: 10043-35-3)

DNEL
Industry - Inhalation; Long term systemic effects: 8.3 mg/m³
Industry - Dermal; Long term systemic effects: 3924800 mg/kg/day
Consumer - Oral; Short term systemic effects: 0.98 mg/kg/day
Consumer - Dermal; Long term local effects: 196 mg/kg/day
Consumer - Dermal; Long term systemic effects: 0.98 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 4.15 mg/m³
Consumer - Oral; Long term systemic effects: 0.98 mg/kg/day

PNEC
- Fresh water; 1.35 mg/l
- Marine water; 1.35 mg/l
- water; Intermittent release 9.1 mg/l
- Sediment; 1.8 mg/kg
- STP; 1.75 mg/l

SODIUM CARBONATE (CAS: 497-19-8)

DNEL
Workers - Inhalation; Long term local effects: 10 mg/m³

E.D.T.A disodium salt. dihydrate (CAS: 6381-92-6)

Ingredient comments
No exposure limits known for ingredient(s).

DNEL
Workers - Inhalation; Long term local effects: 1.5 mg/m³
Workers - Inhalation; Short term local effects: 3 mg/m³

PNEC
- Fresh water; 2.2 mg/l
- Marine water; 0.22 mg/l
- Intermittent release; 1.2 mg/l

ORGANIC CADMIUM SALT

DNEL
Workers - Inhalation; Long term systemic effects: 0.004 mg/m³

PNEC
- Fresh water; 0.19 µg/l
- Marine water; 1.14 µg/l
- STP; 20 µg/l
- Sediment (Freshwater); 1.8 mg/kg
- Sediment (Marinewater); 0.64 mg/kg
- Soil; 0.9 mg/kg

8.2. Exposure controls

Protective equipment

GILDAURA 18MY ELECTROLYTE SALT

Appropriate engineering controls	Provide adequate general and local exhaust ventilation.
Eye/face 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: Dust-resistant, chemical splash goggles.
Hand protection	Use protective gloves.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures	Use engineering controls to reduce air contamination to permissible exposure level. Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap and water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.
Respiratory protection	Wear a suitable dust mask.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Dusty powder.
Colour	Various colours.
pH	pH (diluted solution): 7-9 @ 5%
Solubility(ies)	Soluble in water.

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

Stability	Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Conditions to avoid	Avoid contact with acids. Generates very toxic gas in contact with acid.

10.5. Incompatible materials

10.6. Hazardous decomposition products

Hazardous decomposition products	Toxic gases/vapours/fumes of: Hydrogen cyanide (HCN).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	185.94

Acute toxicity - dermal

ATE dermal (mg/kg)	1,976.28

Acute toxicity - inhalation

ATE inhalation (gases ppm)	3,645.79

GILDAURA 18MY ELECTROLYTE SALT

ATE inhalation (vapours mg/l)	16.86
ATE inhalation (dusts/mists mg/l)	1.31

Inhalation	Gas or vapour is harmful on prolonged exposure or in high concentrations.
Ingestion	Toxic if swallowed.
Skin contact	Toxic through skin absorption (percutaneous).
Eye contact	Severe irritation, burning and tearing.
Acute and chronic health hazards	Known or suspected carcinogen for humans. Known or suspected mutagen.
Route of entry	Inhalation Skin absorption Ingestion. Skin and/or eye contact

Toxicological information on ingredients.

SODIUM CARBONATE

Skin contact	Irritating to skin.
Eye contact	Irritating to eyes.

BORIC ACID

Inhalation	Harmful by inhalation.
Ingestion	Harmful if swallowed.
Skin contact	Harmful: danger of serious damage to health by prolonged exposure in contact with skin.
Eye contact	Irritating to eyes.
Acute and chronic health hazards	Known or suspected mutagen.
Target organs	No specific target organs known.

E.D.T.A disodium salt. dihydrate

Inhalation	Harmful by inhalation.
Ingestion	May cause discomfort if swallowed.
Skin contact	Powder may irritate skin.
Eye contact	Particles in the eyes may cause irritation and smarting.
Acute and chronic health hazards	The product irritates mucous membranes and may cause abdominal discomfort if swallowed.

GOLD POTASSIUM CYANIDE

GILDAURA 18MY ELECTROLYTE SALT

Inhalation	Very toxic by inhalation. Unconsciousness, possibly death.
Ingestion	Very toxic if swallowed. Unconsciousness, possibly death.
Skin contact	Toxic through skin absorption (percutaneous).
Eye contact	Severe irritation, burning and tearing.
Acute and chronic health hazards	Gas or vapour is toxic or extremely irritating, even on brief exposure. Gas or vapour displaces oxygen available for breathing (asphyxiant). This chemical can be hazardous when inhaled and/or touched. Toxic through skin absorption (percutaneous). Repeated exposure may cause chronic eye irritation. Exposure may cause: Unconsciousness. Death.
Route of entry	Inhalation Skin absorption Ingestion. Skin and/or eye contact
Medical symptoms	Cyanosis (blue tissue condition - nails, lips and/or skin).

ORGANIC CADMIUM SALT

Acute toxicity - inhalation

ATE inhalation (dusts/mists mg/l)	0.05

SECTION 12: Ecological Information

Ecotoxicity The product contains substances which are toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Ecological information on ingredients.

GOLD POTASSIUM CYANIDE

Ecotoxicity	Dangerous for the environment if discharged into watercourses.

12.1. Toxicity

Ecological information on ingredients.

BORIC ACID

Acute toxicity - fish	LC_{50}, 96 hours: 456 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 760 mg/l, Daphnia magna

GOLD POTASSIUM CYANIDE

Toxicity	Very toxic to aquatic organisms.

Acute aquatic toxicity

$LE(C)_{50}$	0.1 < L(E)C50 ≤ 1

Chronic aquatic toxicity

NOEC	0.01 < NOEC ≤ 0.1
Degradability	Non-rapidly degradable
M factor (Chronic)	1

GILDAURA 18MY ELECTROLYTE SALT

ORGANIC CADMIUM SALT

Chronic aquatic toxicity

NOEC	0.001 < NOEC ≤ 0.01
Degradability	Non-rapidly degradable
M factor (Chronic)	10

ORGANIC NICKEL SALT

Acute aquatic toxicity

$LE(C)_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1

Chronic aquatic toxicity

NOEC	0.01 < NOEC ≤ 0.1
Degradability	Non-rapidly degradable
M factor (Chronic)	1

12.2. Persistence and degradability

12.3. Bioaccumulative potential

Ecological information on ingredients.

BORIC ACID

Bioaccumulative potential	The product is not bioaccumulating.

12.4. Mobility in soil

Ecological information on ingredients.

BORIC ACID

Mobility	Mobile.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods	Reuse or recycle products wherever possible. Alternatively React with sodium hypochlorite to destroy. Check that all cyanide has been destroyed with starch iodide paper. Absorb in vermiculite, dry sand or earth and place into containers. Dispose of waste via a licensed waste disposal contractor. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	3077
UN No. (IMDG)	3077
UN No. (ICAO)	3077

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UN No. (ADN)	3077

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Gold potaasium cyanide, Organic nickel salt)
Proper shipping name (IMDG)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Gold potaasium cyanide, Organic nickel salt)
Proper shipping name (ICAO)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Gold potaasium cyanide, Organic nickel salt)
Proper shipping name (ADN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Gold potaasium cyanide, Organic nickel salt)

14.3. Transport hazard class(es)

ADR/RID class	9
ADR/RID classification code	M7
ADR/RID label	9
IMDG class	9
ICAO class/division	9
ADN class	9

Transport labels

14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	2Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(E)

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

GILDAURA 18MY ELECTROLYTE SALT

SECTION 15: Regulatory information

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

National regulations Health and Safety at Work etc. Act 1974 (as amended).
The Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No. 2677) (as amended).

Guidance Workplace Exposure Limits EH40.

15.2. Chemical safety assessment

SECTION 16: Other information

Key literature references and sources for data Dangerous Properties of Industrial Chemicals, N.Sax, Croner's: Dangerous Substances. Croner's: Emergency Spillage Guide. Croner's: Substances Hazardous to Health. Material Safety Data Sheet, Misc. manufacturers.

Revision date 02/06/2015

Revision 7

Supersedes date 27/05/2010

Risk phrases in full R20 Harmful by inhalation.
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R20/22 Harmful by inhalation and if swallowed.
R22 Harmful if swallowed.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R32 Contact with acids liberates very toxic gas.
R36 Irritating to eyes.
R38 Irritating to skin.
R42/43 May cause sensitisation by inhalation and skin contact.
R45 May cause cancer.
R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R49 May cause cancer by inhalation.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R60 May impair fertility.
R61 May cause harm to the unborn child.
R68 Possible risk of irreversible effects.

GILDAURA 18MY ELECTROLYTE SALT

Hazard statements in full

H300 Fatal if swallowed.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H360D May damage the unborn child.
H360FD May damage fertility. May damage the unborn child.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
EUH208 Contains ORGANIC NICKEL SALT. May produce an allergic reaction.