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

Product name : Nickel Electrolyte Part B, Ni-Co Electrolyte Part B
Product number : R-300-025ENI-02
Substance name : Nickel Cobalt Electrolyte Part B, used for making Ni-Co Electrolyte
REACH reg. no. : This product is exempt from registration, insufficient annual volume.

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

Identified uses : Reagent for analysis

1.3 Details of the supplier of the safety data sheet

Company : Modern Water Monitoring Limited
: Units 15-17 Cambridge Science Park
: Cambridge, CB4 0FQ
: UK
Email : info@modernwater.co.uk

1.4 Emergency telephone number

+44 (0) 1483 696030

SECTION 2: Hazards identification
2.1 Classification of the substance or mixture**Classification according to Regulation (EC) No 1272/2008**

Flammable liquids (Category 2)

Acute toxicity, Oral, Inhalation and Dermal (Category 3)

Specific target organ toxicity - single exposure (Category 1)

2.2 Label elements:

Signal Word: Danger

Hazard statements:

H225	Highly flammable liquid and vapour.
H301+311+313	Toxic if swallowed, in contact with skin or if inhaled
H370	Causes damage to organs.



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Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P311	Call a POISON CENTER or doctor/ physician.

2.3 Other hazards : Not known

SECTION 3: Composition/information on ingredients

3.1 Substance : Not relevant, see 3.2 Mixtures

3.2 Mixtures

Hazardous ingredients classification according to Regulation (EC) No. 1272/2008 CLP

Substance name	Concentration	CAS No	EC No
Methanol	99%	67-56-1	200-659-6
H225 – Highly flammable liquid and vapour.			
H301+311+313 – Toxic if swallowed, in contact with skin or if inhaled			
H370 - Causes damage to organs.			
Di Methyl Gloxime	<0.1%	1336-21-6	215-647-6
H328 – Flammable solid			
H301 – Toxic if swallowed			

SECTION 4: First Aid measures

4.1 Description of first aid measure


General advice: When in doubt or if symptoms observed, get medical advice. Show this safety data sheet to the doctor in attendance.

After Inhalation: Remove casualty to fresh air and keep warm. If breathing difficult or respiratory tract irritation get medical assistance. If not breathing, give artificial respiration and get urgent medical assistance.

In case of skin contact: Remove contaminated clothing. Wash off with soap and plenty of water. Get medical assistance.

After eye contact: Rinse thoroughly with plenty of water for at least 15 minutes. Remove contact lenses. Get urgent medical assistance.

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In case of ingestion: If accidentally swallowed rinse mouth with plenty of water (only if person is conscious). Do not induce vomiting. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5: Fire-fighting measures.

5.1 Extinguishing media:

Suitable extinguishing media

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

Unsuitable extinguishing media

No restriction

5.2 Special hazards arising from the substance or mixture

Possibility of toxic fumes

5.3 Advice for firefighters

Wear self-contained breathing apparatus.

5.4 Additional information

Do not let run-off from fire-fighting to enter drains or water courses.

SECTION 6: Accidental release measures.

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment (see section 8). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Beware of vapours accumulating to form explosive concentrations.

6.2 Environmental precautions

Do not let large quantities enter drains or surface water. Spills are to be contained. Discharge into environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Keep in a suitable closed container for disposal. Dispose correctly, referring to local regulations.

6.4 References to other sections

For disposal see section 13.



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SECTION 7: Handling and storage.

7.1 Precautions for safe handling

Avoid exposure to skin and eyes. Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.

7.2 Conditions for safe storage, including and incompatibilities

Store in a cool place, below 25°C. Keep contained upright and the cap tightly closed.
Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)

Apart from uses specified in section 1.2, no other specific uses.

SECTION 8: Exposure controls/personal protection.

8.1 Control parameters


Components with workplace control parameters

Component	CAS-No	Value type	Limit value	
Methanol	67-56-1	STEL	250ppm (333mg/m ³)	EU and UK EH40 WEL
		TWA	200ppm (260mg/m ³)	EU and UK EH40 WEL

Derived No Effect Level (DNEL)

Application Area	Exposure routes	Health effect	Value
Workers	Skin contact	Long-term systemic effects	40mg/Kg BW/d
Consumers	Skin contact	Long-term systemic effects	8mg/kg BW/d
Consumers	Ingestion	Long-term systemic effects	8mg/kg BW/d
Workers	Skin contact	Acute systemic effects	40mg/kg BW/d
Consumers	Skin contact	Acute systemic effects	8mg/kg BW/d
Consumers	Ingestion	Acute systemic effects	8mg/kg BW/d
Workers	Inhalation	Acute systemic effects	260mg/kg BW/d
Workers	Inhalation	Acute local effects	260mg/kg BW/d
Workers	Inhalation	Long-term systemic effects	260mg/kg BW/d
Workers	Inhalation	Long-term local effects	260mg/kg BW/d
Consumers	Inhalation	Acute systemic effects	50mg/kg BW/d
Consumers	Inhalation	Acute local effects	50mg/kg BW/d
Consumers	Inhalation	Long-term systemic effects	50mg/kg BW/d
Consumers	Inhalation	Long-term local effects	50mg/kg BW/d

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Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	23.5 mg/kg
Marine fish	15.4 mg/kg
Fresh water	154 mg/kg
Fresh water sediment	570 mg/kg
Onsite sewage treatment plant	100 mg/kg

8.2 Exposure controls:

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at end of workday.

Personal protective equipment

Wear suitable protective clothing

Eye/face protection

Safety glasses with side-shields conforming to EN166 or equivalent standard.

Skin protection

If full contact - use butyl rubber gloves, 0.3mm minimum thickness.

Splash protection – use nitrile, 0.4mm minimum thickness.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator, suitable for this chemical. Consult your government regulations.

SECTION 9: Physical and chemical properties.

9.1 Information on basic physical and chemical properties

Appearance	Clear colourless liquid
Odour	Pungent
Odour threshold	no data available
pH	no data available
Melting point/range (°C)	no data available
Boiling point (°C):	65(Approx.)
Flash point	10 (Approx), closed cup
Evaporation rate	not applicable
Flammability (solid/gas)	not applicable
Upper/lower flammability rates	Upper explosion limit: 36 %(V) Lower explosion limit: 6 %(V)
Vapour pressure (mmHg at 20°C)	130 (Approx.)
Vapour density	1.11
Relative density	0.79
Water solubility	completely miscible
Partition coefficient: n-octane/water	log Pow: -0.77
Auto ignition temperature	455.0 °C at 1,013 hPa
Decomposition temperature	no data available



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Viscosity not applicable
Explosive properties not explosive
Oxidising properties The substance or mixture is not classified as oxidizing.

9.2 Other data

None

SECTION 10: Stability and reactivity.

10.1 Reactivity

No data available

10.2 Chemical stability

This product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparkes

10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

10.6 Hazardous decomposition products

No data available

SECTION 11: Toxicological information.

11.1 Information on toxicological effects

Acute toxicity

LDLO Oral - Human - 143 mg/kg

Remarks: Lungs, Thorax, or Respiration: Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

LD50 Oral - Rat - 1,187 - 2,769 mg/kg

LC50 Inhalation - Rat - 4 h - 128.2 mg/l

LC50 Inhalation - Rat - 6 h - 87.6 mg/l

LD50 Dermal - Rabbit - 17,100 mg/kg

Skin corrosion/irritation

May cause skin irritation.

Serious eye damage/eye irritation

May cause eye irritation

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Respiration or skin sensitisation

Not sensitising

Germ cell mutagenicity

No evidence of human mutagenicity exist

Carcinogenicity

No indication of human carcinogenicity

Reproductive toxicity

No indication of human reproductive toxicity exist

Specific target organ exposure – single exposure

Causes damage to organs.

Specific target organ exposure – repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

No aspiration toxicity classification

Other adverse effects

May be fatal or cause blindness if swallowed.

Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures.

Symptoms may be delayed., Damage of the:, Liver, Kidney

SECTION 12: Ecological information.

12.1 Toxicity

Toxicity to fish mortality LC50 - Lepomis macrochirus (Bluegill) - 15,400.0 mg/l - 96 h

NOEC - Oryzias latipes - 7,900 mg/l - 200 h

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - > 10,000.00 mg/l - 48 h

Toxicity to algae Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 22,000.0 mg/l - 96 h

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 5 dResult: 72 % - rapidly biodegradable

Biochemical Oxygen Demand (BOD), 600 - 1,120 mg/g

Chemical Oxygen Demand (COD), 1,420 mg/g

Theoretical oxygen demand, 1,500 mg/g

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12.3 Bioaccumulative potential

Bioaccumulation Cyprinus carpio (Carp) - 72 d, at 20 °C - 5 mg/l

Bioconcentration factor (BCF): 1.0

12.4 Mobility in soil

Will not absorb into soil

12.5 Results of PBT and vPvB assessment

This mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Stability in water at 19 °C⁸³ - 91 % - 72 h;

Remarks: Hydrolyses on contact with water. Hydrolyses readily.

Avoid release to the environment.

SECTION 13: Disposal considerations.

13.1 Waste treatment methods:

Product

Dispose in accordance to local regulations; consult the local waste disposal expert.

Contaminated packaging

Dispose in accordance to local regulations, the same way as the product itself.

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SECTION 14: Transport information.

Typical quantities of this product can be shipped under the exempted quantities classifications.

Land transport (ADR/RID)

14.1	UN number	UN1230
14.2	UN proper shipping name	METHANOL
14.3	Transport hazard	3 (6.1)
14.4	Packaging group	II
14.5	Environmental hazards	Not applicable
14.6	Special precaution for user	Not applicable

Air transport (IATA)

14.1	UN number	UN1230
14.2	UN proper shipping name	METHANOL
14.3	Transport hazard	3 (6.1)
14.4	Packaging group	II
14.5	Environmental hazards	Not applicable
14.6	Special precaution for user	Not applicable

SEA transport (IMDG)

14.1	UN number	UN1230
14.2	UN proper shipping name	METHANOL
14.3	Transport hazard	3 (6.1)
14.4	Packaging group	II
14.5	Environmental hazards	Not a marine pollutant
14.6	Special precaution for user	Not applicable

SECTION 15: Regulatory information.

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

None applicable

15.2 Chemical Safety Assessment

No data available

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SECTION 16: Other information.

Abbreviations and acronyms

ADR – European Agreement Concerning the International Carriage of Dangerous Goods by Road
Co - Cobalt

IATA – International Air Transportation Association

IMDG – international Maritime Code of Dangerous Goods

Ni - Nickel

STEL – Short term exposure limit

TWA – Time Weighted Average

WEL – Workplace Exposure Limit

Symbol, R and S phrases for this mixture

Symbol	Xi- Irritant	
R-phrase(s)	R11	Highly Flammable
	R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
	R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
S-phrase(s)	S7	Keep container tightly closed.
	S16	Keep away from sources of ignition – No smoking.
	S36/37	Wear suitable protective clothing and gloves.
	S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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