



SAFETY DATA SHEET

1 .Identification of the substance/preparation and of the company/undertaking

Product name : CRYOLANT RB-32

Product use : Ester for Refrigeration Lubricants

Supplier : PATECH FINE CHEMICALS CO., Ltd

Address: No.20, Dong 1 RD., Changhua Coastal Industrial Park ,Hsien Hsi Shiang, Changhua Hsien, Taiwan,R.O.C.

Telephone No: +886-4-758-8688

Telefax. No: +886-4-758-8699

Mail address : contme@patechfc.com.tw

EMERGENCY TELEPHONE NUMBER : 886-4-758-8688(24hr)

2 .Hazards identification

This preparation is not classified as dangerous according to Directive 1999/45/EC as amended and adapted.

Physical/chemical hazards

Not classified as dangerous.

Human health hazards

Not classified as dangerous.

Environmental hazards

Unlikely to be harmful to aquatic organisms.

Effects and symptoms

Eyes No significant health hazards identified.

Skin No significant health hazards identified.

Inhalation No significant health hazards identified.

Ingestion No significant health hazards identified.

3 .Composition/information on ingredients

	Weight %	Classification
Polyol esters	>99.0	Not classified

This product does not contain any hazardous ingredients at or above regulated thresholds

4 .First aid measures

Eye Contact

In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin contact

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation

If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Notes to physician

Treatment should in general be symptomatic and directed to relieving any effects.

Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage.

Note that high pressure may force the product considerable distances along tissue planes.

5 .Fire-fighting measures

Extinguishing Media

Suitable

In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.

Not Suitable

Do not use water jet.

Unusual fire/explosion Hazards

None identified.

Protection of fire-fighters

Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

6 .Accidental release measures

Personal Precautions

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").

Environmental precautions and clean-up methods

If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.

Personal protection in case of a large spill

Splash goggles. Full suit. Boots. Gloves.

7 .Handling and storage

Handling

Wash thoroughly after handling. Avoid strong oxidizers.

Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area.

8 .Exposure controls/personal protection

Occupational exposure limits

This product does not have any assigned OELs.

Control Measures

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures

Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Personal protective equipment Respiratory system

None required; however, use of adequate ventilation is good industrial practice.

Skin and body

None required; however, use of protective clothing is good industrial practice.

Hands

None required; however, use of gloves is good industrial practice.

Eyes

Safety glasses with side shields.

9 .Physical and chemical properties

Flash point : 215°C (C.O.C)

Pour Point : -48 °C

Colour : yellowish.

Physical state : Liquid.

Odour : Mild odor

Density : 944kg/m³(0.944 g/cm³) at 20°C

Solubility : Insoluble in water.

Viscosity : Kinematic: 32 mm²/s (32 cSt) at 40°C ;5.3mm²/s (5.3cSt) at 100°C

10 .Stability and reactivity

Incompatibility with various substances

Reactive with oxidising agents.

Hazardous polymerization

Will not occur.

11.Toxicological information

Acute toxicity

Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.

Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis.

Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea.

At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal Augomposition products occurs.

Carcinogenic effects

Chronic toxicity

No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

12 .Ecological information

Persistence/degradability

Inherently biodegradable.

Mobility

Spillages may penetrate the soil causing ground water contamination.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Environmental hazards

Unlikely to be harmful to aquatic organisms.

Other ecological information

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13 .Disposal considerations

Disposal Consideration /Waste information

Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Used/contaminated product

European waste catalogue (EWC)

13 02 06* Synthetic engine, gear & lubricating oils

14 .Transport information

Not classified as hazardous for transport (ADR, RID, UN , IMO, IATA/ICAO).

15 .Regulatory information

Label Requirements

Risk Phrases

This product is not classified according to the EU regulations.

EU Regulations

Classification and labelling have been performed according to EU directives 1999/45/EC and 67/548/EEC as amended and adapted.

Other regulations Inventories

- AUSTRALIAN INVENTORY (AICS): In compliance.
- CANADA INVENTORY (DSL): In compliance.
- CHINA INVENTORY (IECSC): In compliance.
- EC INVENTORY (EINECS/ELINCS): In compliance.
- JAPAN INVENTORY (ENCS): In compliance.
- KOREA INVENTORY (ECL): In compliance.
- PHILIPPINE INVENTORY (PICCS): In compliance.
- US INVENTORY (TSCA): In compliance.

Hazard class for water (WGK)

Reg. no.: 4197

Status: P: Classification according to annex 3

WGK: 1

16 .Other information

History

Date of issue 01/11/2012.

Date of previous issue 01/10/2012.

Prepared by Product Stewardship Department

Notice to reader

Although CRYOLANT RB-32 has not been pre-registered under REACH regulation, PATECH will proceed with late pre-registration as soon as customer from EU place an order or import this material into EU. Quantity need to be over 1.0 mt.

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The PATECH FINE CHEMICALS shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.



SAFETY DATA SHEET

1 .Identification of the substance/preparation and of the company/undertaking

Product name : CRYOLANT RB-68

Product use : Ester for Refrigeration Lubricants

Supplier : PATECH FINE CHEMICALS CO., Ltd

Address: No.20, Dong 1 RD., Changhua Coastal Industrial Park ,Hsien Hsi Shiang, Changhua Hsien, Taiwan,R.O.C.

Telephone No: +886-4-758-8688

Telefax. No: +886-4-758-8699

Mail address : contme@patechfc.com.tw

EMERGENCY TELEPHONE NUMBER : 886-4-758-8688(24hr)

2 .Hazards identification

This preparation is not classified as dangerous according to Directive 1999/45/EC as amended and adapted.

Physical/chemical hazards

Not classified as dangerous.

Human health hazards

Not classified as dangerous.

Environmental hazards

Unlikely to be harmful to aquatic organisms.

Effects and symptoms

Eyes No significant health hazards identified.

Skin No significant health hazards identified.

Inhalation No significant health hazards identified.

Ingestion No significant health hazards identified.

3 .Composition/information on ingredients

	Weight %	Classification
Polyol esters	>99.0	Not classified

This product does not contain any hazardous ingredients at or above regulated thresholds

4 .First aid measures

Eye Contact

In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin contact

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation

If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Notes to physician

Treatment should in general be symptomatic and directed to relieving any effects.

Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage.

Note that high pressure may force the product considerable distances along tissue planes.

5 .Fire-fighting measures

Extinguishing Media

Suitable

In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.

Not Suitable

Do not use water jet.

Unusual fire/explosion Hazards

None identified.

Product Name CRYOLANT RB-68

Date of issue 01 Nov. 2012

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Version 3

Protection of fire-fighters

Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

6 .Accidental release measures

Personal Precautions

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").

Environmental precautions and clean-up methods

If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.

Personal protection in case of a large spill

Splash goggles. Full suit. Boots. Gloves.

7 .Handling and storage

Handling

Wash thoroughly after handling. Avoid strong oxidizers.

Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area.

8 .Exposure controls/personal protection

Occupational exposure limits

This product does not have any assigned OELs.

Control Measures

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures

Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Personal protective equipment Respiratory system

None required; however, use of adequate ventilation is good industrial practice.

Skin and body

None required; however, use of protective clothing is good industrial practice.

Hands

None required; however, use of gloves is good industrial practice.

Eyes

Safety glasses with side shields.

9 .Physical and chemical properties

Flash point : 255°C (C.O.C)

Pour Point : -39 °C

Colour : yellowish.

Physical state : Liquid.

Odour : Mild odor

Density : 958kg/m³(0.958 g/cm³) at 15°C

Solubility : Insoluble in water.

Viscosity : Kinematic: 68 mm²/s (68 cSt) at 40°C ;8.5mm²/s (8.5cSt) at 100°C

10 .Stability and reactivity

Incompatibility with various substances

Reactive with oxidising agents.

Hazardous polymerization

Will not occur.

11.Toxicological information

Acute toxicity

Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.

Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis.

Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea.

At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal Augomposition products occurs.

Carcinogenic effects

Chronic toxicity

No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

12 .Ecological information

Persistence/degradability

Inherently biodegradable.

Mobility

Spillages may penetrate the soil causing ground water contamination.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Environmental hazards

Unlikely to be harmful to aquatic organisms.

Other ecological information

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13 .Disposal considerations

Disposal Consideration /Waste information

Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Used/contaminated product

European waste catalogue (EWC)

13 02 06* Synthetic engine, gear & lubricating oils

14 .Transport information

Not classified as hazardous for transport (ADR, RID, UN , IMO, IATA/ICAO).

15 .Regulatory information

Label Requirements

Risk Phrases

This product is not classified according to the EU regulations.

EU Regulations

Classification and labelling have been performed according to EU directives 1999/45/EC and 67/548/EEC as amended and adapted.

Other regulations Inventories

AUSTRALIAN INVENTORY (AICS): In compliance.
CANADA INVENTORY (DSL): In compliance.
CHINA INVENTORY (IECSC): In compliance.
EC INVENTORY (EINECS/ELINCS): In compliance.
JAPAN INVENTORY (ENCS): In compliance.
KOREA INVENTORY (ECL): In compliance.
PHILIPPINE INVENTORY (PICCS): In compliance.
US INVENTORY (TSCA): In compliance.

Hazard class for water (WGK)

Reg. no.: 4197

Status: P: Classification according to annex 3

WGK: 1

16 .Other information

History

Date of issue 01/11/2012.

Date of previous issue 01/04/2012

Prepared by Product Stewardship Department

Notice to reader

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SAFETY DATA SHEET

1. Identification of the substance/preparation and of the company/undertaking

Product name : CRYOLANT RB-170

Product use : Ester for Refrigeration Lubricants

Supplier : PATECH FINE CHEMICALS CO., Ltd

Address: No.20, Dong 1 RD., Changhua Coastal Industrial Park ,Hsien Hsi Shiang, Changhua Hsien, Taiwan,R.O.C.

Telephone No: +886-4-758-8688

Telefax. No: +886-4-758-8699

Mail address : contme@patechfc.com.tw

EMERGENCY TELEPHONE NUMBER : 886-4-758-8688(24hr)

2. Hazards identification

This preparation is not classified as dangerous according to Directive 1999/45/EC as amended and adapted.

Physical/chemical hazards

Not classified as dangerous.

Human health hazards

Not classified as dangerous.

Environmental hazards

Unlikely to be harmful to aquatic organisms.

Effects and symptoms

Eyes No significant health hazards identified.

Skin No significant health hazards identified.

Inhalation No significant health hazards identified.

Ingestion No significant health hazards identified.

3. Composition/information on ingredients

	Weight %	Classification
Polyol esters	>99.0	Not classified

This product does not contain any hazardous ingredients at or above regulated thresholds

4. First aid measures

Eye Contact

In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin contact

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation

If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Notes to physician

Treatment should in general be symptomatic and directed to relieving any effects.

Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage.

Note that high pressure may force the product considerable distances along tissue planes.

5. Fire-fighting measures

Extinguishing Media

Suitable

In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.

Not Suitable

Do not use water jet.

Unusual fire/explosion Hazards

None identified.

Product Name CRYOLANT RB-170

Date of issue 01 Nov. 2012

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Version 2

Protection of fire-fighters

Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

6 .Accidental release measures

Personal Precautions

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").

Environmental precautions and clean-up methods

If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.

Personal protection in case of a large spill

Splash goggles. Full suit. Boots. Gloves.

7 .Handling and storage

Handling

Wash thoroughly after handling. Avoid strong oxidizers.

Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area.

8 .Exposure controls/personal protection

Occupational exposure limits

This product does not have any assigned OELs.

Control Measures

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures

Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Personal protective equipment Respiratory system

None required; however, use of adequate ventilation is good industrial practice.

Skin and body

None required; however, use of protective clothing is good industrial practice.

Hands

None required; however, use of gloves is good industrial practice.

Eyes

Safety glasses with side shields.

9 .Physical and chemical properties

Flash point : 268°C (C.O.C)

Pour Point : -27 °C

Colour : yellowish.

Physical state : Liquid.

Odour : Mild odor

Density : 959kg/m³(0.959 g/cm³) at 20°C

Solubility : Insoluble in water.

Viscosity : Kinematic: 170 mm²/s (170 cSt) at 40°C ;15.2mm²/s (15.2cSt) at 100°C

10 .Stability and reactivity

Incompatibility with various substances

Reactive with oxidising agents.

Hazardous polymerization

Will not occur.

11.Toxicological information

Acute toxicity

Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.

Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis.

Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea.

At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal Augomposition products occurs.

Carcinogenic effects

Chronic toxicity

No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

12 .Ecological information

Persistence/degradability

Inherently biodegradable.

Mobility

Spillages may penetrate the soil causing ground water contamination.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Environmental hazards

Unlikely to be harmful to aquatic organisms.

Other ecological information

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13 .Disposal considerations

Disposal Consideration /Waste information

Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Used/contaminated product

European waste catalogue (EWC)

13 02 06* Synthetic engine, gear & lubricating oils

14 .Transport information

Not classified as hazardous for transport (ADR, RID, UN , IMO, IATA/ICAO).

15 .Regulatory information

Label Requirements

Risk Phrases

This product is not classified according to the EU regulations.

EU Regulations

Classification and labelling have been performed according to EU directives 1999/45/EC and 67/548/EEC as amended and adapted.

Other regulations Inventories

AUSTRALIAN INVENTORY (AICS): In compliance.
CANADA INVENTORY (DSL): In compliance.
CHINA INVENTORY (IECSC): In compliance.
EC INVENTORY (EINECS/ELINCS): In compliance.
JAPAN INVENTORY (ENCS): In compliance.
KOREA INVENTORY (ECL): In compliance.
PHILIPPINE INVENTORY (PICCS): In compliance.
US INVENTORY (TSCA): In compliance.

Hazard class for water (WGK)

Reg. no.: 4197

Status: P: Classification according to annex 3

WGK: 1

16 .Other information

History

Date of issue 01/11/2012.

Date of previous issue 01/02/2012.

Prepared by Product Stewardship Department

Notice to reader

Although CRYOLANT RB-170 has not been pre-registered under REACH regulation, PATECH will proceed with late pre-registration as soon as customer from EU place an order or import this material into EU. Quantity need to be over 1.0 mt.

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SAFETY DATA SHEET

1. Identification of the substance/preparation and of the company/undertaking

Product name : CRYOLANT RB-220

Product use : Ester for Refrigeration Lubricants

Supplier : PATECH FINE CHEMICALS CO., Ltd

Address: No.20, Dong 1 RD., Changhua Coastal Industrial Park ,Hsien Hsi Shiang, Changhua Hsien, Taiwan,R.O.C.

Telephone No: +886-4-758-8688

Telefax. No: +886-4-758-8699

Mail address : contme@patechfc.com.tw

EMERGENCY TELEPHONE NUMBER : 886-4-758-8688(24hr)

2. Hazards identification

This preparation is not classified as dangerous according to Directive 1999/45/EC as amended and adapted.

Physical/chemical hazards

Not classified as dangerous.

Human health hazards

Not classified as dangerous.

Environmental hazards

Unlikely to be harmful to aquatic organisms.

Effects and symptoms

Eyes No significant health hazards identified.

Skin No significant health hazards identified.

Inhalation No significant health hazards identified.

Ingestion No significant health hazards identified.

3. Composition/information on ingredients

	Weight %	Classification
Polyol esters	>99.0	Not classified

This product does not contain any hazardous ingredients at or above regulated thresholds

4. First aid measures

Eye Contact

In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin contact

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation

If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Notes to physician

Treatment should in general be symptomatic and directed to relieving any effects.

Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage.

Note that high pressure may force the product considerable distances along tissue planes.

5. Fire-fighting measures

Extinguishing Media

Suitable

In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.

Not Suitable

Do not use water jet.

Unusual fire/explosion Hazards

None identified.

Product Name CRYOLANT RB-220

Date of issue 01 Nov. 2012

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Version 2

Protection of fire-fighters

Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

6 .Accidental release measures

Personal Precautions

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").

Environmental precautions and clean-up methods

If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.

Personal protection in case of a large spill

Splash goggles. Full suit. Boots. Gloves.

7 .Handling and storage

Handling

Wash thoroughly after handling. Avoid strong oxidizers.

Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area.

8 .Exposure controls/personal protection

Occupational exposure limits

This product does not have any assigned OELs.

Control Measures

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures

Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Personal protective equipment Respiratory system

None required; however, use of adequate ventilation is good industrial practice.

Skin and body

None required; however, use of protective clothing is good industrial practice.

Hands

None required; however, use of gloves is good industrial practice.

Eyes

Safety glasses with side shields.

9 .Physical and chemical properties

Flash point : 275°C (C.O.C)

Pour Point : -24 °C

Colour : yellowish.

Physical state : Liquid.

Odour : Mild odor

Density : 961kg/m³(0.961 g/cm³) at 20°C

Solubility : Insoluble in water.

Viscosity : Kinematic: 220 mm²/s (220 cSt) at 40°C ;18.1mm²/s (18.1cSt) at 100°C

10 .Stability and reactivity

Incompatibility with various substances

Reactive with oxidising agents.

Hazardous polymerization

Will not occur.

11.Toxicological information

Acute toxicity

Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.

Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis.

Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea.

At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal Augomposition products occurs.

Carcinogenic effects

Chronic toxicity

No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

12 .Ecological information

Persistence/degradability

Inherently biodegradable.

Mobility

Spillages may penetrate the soil causing ground water contamination.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Environmental hazards

Unlikely to be harmful to aquatic organisms.

Other ecological information

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13 .Disposal considerations

Disposal Consideration /Waste information

Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Used/contaminated product

European waste catalogue (EWC)

13 02 06* Synthetic engine, gear & lubricating oils

14 .Transport information

Not classified as hazardous for transport (ADR, RID, UN , IMO, IATA/ICAO).

15 .Regulatory information

Label Requirements

Risk Phrases

This product is not classified according to the EU regulations.

EU Regulations

Classification and labelling have been performed according to EU directives 1999/45/EC and 67/548/EEC as amended and adapted.

Other regulations Inventories

AUSTRALIAN INVENTORY (AICS): In compliance.
CANADA INVENTORY (DSL): In compliance.
CHINA INVENTORY (IECSC): In compliance.
EC INVENTORY (EINECS/ELINCS): In compliance.
JAPAN INVENTORY (ENCS): In compliance.
KOREA INVENTORY (ECL): In compliance.
PHILIPPINE INVENTORY (PICCS): In compliance.
US INVENTORY (TSCA): In compliance.

Hazard class for water (WGK)

Reg. no.: 4197

Status: P: Classification according to annex 3

WGK: 1

16 .Other information

History

Date of issue 01/11/2012.

Date of previous issue 01/02/2012

Prepared by Product Stewardship Department

Notice to reader

Although CRYOLANT RB-220 has not been pre-registered under REACH regulation, PATECH will proceed with late pre-registration as soon as customer from EU place an order or import this material into EU. Quantity need to be over 1.0 mt.

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The PATECH FINE CHEMICALS shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.