SAFETY DATA SHEET
PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL

1. Identification

Product identifier
Product name  PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL
Product number  MCC-PRO, MCC-PRO101, MCC-PRO125, MCC-PRO12Y
Synonyms; trade names  "PRO-ProClean Flux Remover"

Recommended use of the chemical and restrictions on use
Application  Cleaning agent.

Details of the supplier of the safety data sheet
Supplier  MicroCare Corporation
Contact Person  techsupport@microcare.com
Manufacturer  MICROCARE CORPORATION
595 John Downey Drive
New Britain, CT  06051
United States of America
CAGE: OATV9
Tel:  +1 860-827-0626
Fax:  +1 860-827-8105
techsupport@microcare.com

Emergency telephone number
Emergency telephone  CHEMTREC (800) 424-9300

2. Hazard(s) identification

Classification of the substance or mixture
OSHA Regulatory Status  This Product is Hazardous under the OSHA Hazard Communication Standard.
Health hazards  Eye Irrit. 2A - H319 STOT SE 3 - H335, H336
Environmental hazards  Not Classified

Human health  Splashes in the eyes may cause redness and irritation. Keep out of the reach of children. See Section 11 for additional information on health hazards.

Physicochemical  Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL

Pictogram

[Symbol for extremely flammable]
[Symbol for inhalation hazard]
[Symbol for flammability]

Signal word
Danger

Hazard statements
H222 Extremely flammable aerosol.
H280 Contains gas under pressure; may explode if heated.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements
P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use
P261 Avoid breathing vapor/spray.
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.
P337+P313 If eye irritation persists: Get medical advice/attention.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
P501 Dispose of contents/container in accordance with national regulations.

Supplemental label information
Safety data sheet available on request. For use in industrial installations only.

Contains
PROPAN-2-OL, ETHANOL

Other hazards
This product does not contain any substances classified as PBT or vPvB.

3. Composition/Information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>PROPA-2-OL</th>
<th>30-60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 67-63-0</td>
<td></td>
</tr>
</tbody>
</table>

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2A - H319
STOT SE 3 - H336

<table>
<thead>
<tr>
<th>ETHANOL</th>
<th>30-60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 64-17-5</td>
<td></td>
</tr>
</tbody>
</table>

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2A - H319
STOT SE 3 - H335
**PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFC-134a Tetrafluoroethane</td>
<td>10-30%</td>
<td>Press. Gas, Liquefied - H280</td>
</tr>
<tr>
<td>CAS number: 811-97-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHANOL</td>
<td>&lt;1%</td>
<td>Flam. Liq. 2 - H225</td>
</tr>
<tr>
<td>CAS number: 67-56-1</td>
<td></td>
<td>Acute Tox. 3 - H301</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute Tox. 3 - H311</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute Tox. 3 - H331</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STOT SE 1 - H370</td>
</tr>
</tbody>
</table>

The Full Text for all Hazard Statements are Displayed in Section 16.

**Composition comments**
The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of CFR 1900.1200 TSCA: The ingredients of this product are on the TSCA Inventory.

**Composition**

**4. First-aid measures**

**Description of first aid measures**

**General information**
Promptly remove any clothing that becomes wet or contaminated. Move affected person to fresh air at once. Get medical attention if any discomfort continues.

**Inhalation**
Move affected person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Keep affected person warm and at rest. Get medical attention immediately.

**Ingestion**
Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Never give anything by mouth to an unconscious person. Consult a physician for specific advice.

**Skin Contact**
Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if irritation persists after washing.

**Eye contact**
Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**Most important symptoms and effects, both acute and delayed**

**General information**
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation**
Vapors may cause headache, fatigue, dizziness and nausea.

**Ingestion**
May cause stomach pain or vomiting. Headache.

**Skin contact**
Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.

**Eye contact**
Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain. Irritation and redness, followed by blurred vision.

**Indication of immediate medical attention and special treatment needed**
5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Extinguish with the following media: Powder. Dry chemicals, sand, dolomite etc. Water spray, fog or mist.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards
Containers can burst violently or explode when heated, due to excessive pressure build-up. Containers can burst violently or explode when heated, due to excessive pressure build-up. Oxides of carbon. Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m3.

Hazardous combustion products
Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

Advice for firefighters

Protective actions during firefighting
Containers close to fire should be removed or cooled with water. Use water to keep fire exposed containers cool and disperse vapors.

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions
Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

Environmental precautions

Environmental precautions
Do not discharge into drains or watercourses or onto the ground.

Methods and material for containment and cleaning up

Methods for cleaning up
Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. If leakage cannot be stopped, evacuate area. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb in vermiculite, dry sand or earth and place into containers.

7. Handling and storage

Precautions for safe handling

Usage precautions
Keep away from heat, sparks and open flame. Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation. Avoid inhalation of vapors. Use approved respirator if air contamination is above an acceptable level.

Conditions for safe storage, including any incompatibilities

Storage precautions
Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C.

Specific end use(s)
Cleaning agent.
PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL

Reference to other sections. Store away from incompatible materials (see Section 10).

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

PROPAN-2-OL

Long-term exposure limit (8-hour TWA): OSHA 400 ppm 980 mg/m³
Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 492 mg/m³
Short-term exposure limit (15-minute): ACGIH 400 ppm 984 mg/m³

ETHANOL

Long-term exposure limit (8-hour TWA): ACGIH
Short-term exposure limit (15-minute): ACGIH 1000 ppm

HFC-134a Tetrafluoroethane

Long-term exposure limit (8-hour TWA): OES 4240 mg/m³
Short-term exposure limit (15-minute): OES

METHANOL

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 262 mg/m³
Short-term exposure limit (15-minute): ACGIH 250 ppm 328 mg/m³
Sk
Long-term exposure limit (8-hour TWA): OSHA 200 ppm 260 mg/m³
OSHA = Occupational Safety and Health Administration.
ACGIH = American Conference of Governmental Industrial Hygienists.

Sk = Danger of cutaneous absorption.
A4 = Not Classifiable as a Human Carcinogen.

Additional Occupational Exposure Limits

Ingredient comments

WEL = Workplace Exposure Limits

Exposure controls

Protective equipment

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. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. It is recommended that gloves are made of the following material: Nitrile rubber. Polyvinyl alcohol (PVA). Viton rubber (fluoro rubber).

Other skin and body protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapor contact.

Hygiene measures

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. When using do not eat, drink or smoke.
Respiratory protection: No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

### 9. Physical and Chemical Properties

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Liquid.</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Clear liquid. Colorless.</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Alcoholic.</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Initial boiling point and range</strong></td>
<td>77.6°C/172°F @ 101.3 kPa</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>17°C/62.6°F TOC (Tag open cup).</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Evaporation factor</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Upper/lower flammability or explosive limits</strong></td>
<td>Upper flammable/explosive limit: 12.7 % (V) Lower flammable/explosive limit: 2.0 % (V)</td>
</tr>
<tr>
<td><strong>Other flammability</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>5.2 kPa @ 20°C</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>1.82</td>
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<tr>
<td><strong>Relative density</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Bulk density</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Solubility(ies)</strong></td>
<td>Completely soluble in water.</td>
</tr>
<tr>
<td><strong>Partition coefficient</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Decomposition Temperature</strong></td>
<td>No information available.</td>
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<tr>
<td><strong>Viscosity</strong></td>
<td>No information available.</td>
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<tr>
<td><strong>Explosive properties</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>There are no chemical groups present in the product that are associated with oxidizing properties.</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>Aerosol.</td>
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<tr>
<td><strong>Refractive index</strong></td>
<td>No information available.</td>
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<tr>
<td><strong>Particle size</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Molecular weight</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Vollatility</strong></td>
<td>100%</td>
</tr>
<tr>
<td><strong>Saturation concentration</strong></td>
<td>No information available.</td>
</tr>
</tbody>
</table>
PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL

Critical temperature
No information available.

Volatile organic compound
This product contains a maximum VOC content of 785 g/litre.

Flammability
Flammable aerosol.

10. Stability and reactivity

Stability
Stable at normal ambient temperatures.

Possibility of hazardous reactions
Will not polymerize.

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

Materials to avoid

Hazardous decomposition products

11. Toxicological information

Information on toxicological effects

Other health effects
There is no evidence that the product can cause cancer.

Acute toxicity - oral
ATE oral (mg/kg) 11,111.11

Acute toxicity - dermal
ATE dermal (mg/kg) 33,333.33

Acute toxicity - inhalation
ATE inhalation (vapours mg/l) 333.33

Inhalation
May cause respiratory system irritation. Vapors may cause headache, fatigue, dizziness and nausea. Prolonged inhalation of high concentrations may damage respiratory system.

Skin Contact
Product has a defatting effect on skin. May cause skin irritation/eczema.

Eye contact
Irritating to eyes.

Toxicological information on ingredients.

PROPA-N-OL

Acute toxicity - oral
Acute toxicity oral (LD₅₀ mg/kg) 5,800.0

Species
Rat

ATE oral (mg/kg) 5,800.0

Acute toxicity - dermal
Acute toxicity dermal (LD₅₀ mg/kg) 13,000.0

Species
Rabbit
PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL

ATE dermal (mg/kg) 13,000.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 16,000.0

Species Rat

ATE inhalation (vapours mg/l) 16,000.0

Carcinogenicity

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

NTP carcinogenicity Not listed.

OSHA Carcinogenicity Not listed.

HFC-134a Tetrafluoroethane

Other health effects There is no evidence that the product can cause cancer.

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ gases ppmV) 567,000.0

Species Rat

ATE inhalation (gases ppm) 567,000.0

METHANOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 7,300.0

Species Mouse

ATE oral (mg/kg) 100.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 15,800.0

Species Rabbit

ATE dermal (mg/kg) 300.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 64,000.0

Species Rat

ATE inhalation (vapours mg/l) 3.0

12. Ecological Information
PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL

Toxicity

Ecological information on ingredients.

**PROPAN-2-OL**

Acute toxicity - fish  
$\text{LC}_{50}$, 96 hours: 9,640 mg/l, Fish

Acute toxicity - aquatic invertebrates  
$\text{EC}_{50}$, 48 hours: 5102 mg/l, Daphnia magna

Acute toxicity - aquatic plants  
$\text{IC}_{50}$, 72 hours: >2,000 mg/l, Algae

**ETHANOL**

Acute toxicity - fish  
$\text{LC}_{50}$, 96 hours: >10,000 mg/l, Fish

Acute toxicity - aquatic invertebrates  
$\text{EC}_{50}$, 48 hours: 7,800 mg/l, Daphnia magna

**HFC-134a Tetrafluoroethane**

Acute toxicity - fish  
$\text{LC}_{50}$, 96 hours: 450 mg/l, Fish

Acute toxicity - aquatic invertebrates  
$\text{EC}_{50}$, 48 hours: 980 mg/l, Daphnia magna

**METHANOL**

Acute toxicity - fish  
$\text{LC}_{50}$, 96 hours: >100 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates  
$\text{EC}_{50}$, 48 hours: >10000 mg/l, Daphnia magna

Bioaccumulative potential

Partition coefficient  
No information available.

Ecological information on ingredients.

**HFC-134a Tetrafluoroethane**

Partition coefficient  
Pow: 1.06

Mobility in soil

Mobility  
Not considered to be a significant hazard due to the small quantities used.

13. Disposal considerations

Waste treatment methods

General information  
Reuse or recycle products wherever possible.

Disposal methods  
Empty containers must not be punctured or incinerated because of the risk of an explosion. Reuse or recycle products wherever possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport information

UN Number

UN No. (TDG)  
UN1950
PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL

UN No. (IMDG)  UN1950
UN No. (ICAO)  UN1950
UN No. (DOT)  UN1950

UN proper shipping name
Proper shipping name (TDG)  UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY
Proper shipping name (IMDG)  UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY
Proper shipping name (ICAO)  UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY
Proper shipping name (DOT)  UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

Transport hazard class(es)
TDG class  2.1
TDG label(s)  2.1
IMDG Class  2.1
ICAO class/division  2.1

Transport labels

Packing group
TDG Packing Group  N/A
IMDG packing group  N/A
ICAO packing group  N/A
DOT packing group  N/A

Environmental hazards
Environmentally Hazardous Substance
No.

Special precautions for user
EmS  F-E, S-E

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

15. Regulatory information

US Federal Regulations
SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
Not listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

METHANOL
Final CERCLA RQ: 5000(2270) pounds (Kilograms)
PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
Not listed.

SARA 313 Emission Reporting
METHANOL
1.0 %

CAA Accidental Release Prevention
Not listed.

SARA (311/312) Hazard Categories
Acute
Chronic
Fire
Pressure

OSHA Highly Hazardous Chemicals
Not listed.

US State Regulations
California Proposition 65 Carcinogens and Reproductive Toxins
METHANOL
Known to the State of California to cause developmental and reproductive toxicity.

California Air Toxics "Hot Spots" (A-I)
PROPN-2-OL
Present.
METHANOL
Present.

California Air Toxics "Hot Spots" (A-II)
Not listed.

California Directors List of Hazardous Substances
PROPN-2-OL
Present.

Massachusetts "Right To Know" List
PROPN-2-OL
Present.
METHANOL
Present.
ETHANOL
Yes.

Rhode Island "Right To Know" List
PROPN-2-OL
Present.
METHANOL
Present.
PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL

ETHANOL
Yes.

Minnesota "Right To Know" List

PROPAN-2-OL
Present.
HFC-134a Tetrafluoroethane
Present.
METHANOL
Present.
ETHANOL
Yes.

New Jersey "Right To Know" List

PROPAN-2-OL
Present.
METHANOL
Present.
ETHANOL
Yes.

Pennsylvania "Right To Know" List

PROPAN-2-OL
Present.
METHANOL
Present.
ETHANOL
Yes.

Inventories

Canada - DSL/NDSL
Yes
PROPAN-2-OL
HFC-134a Tetrafluoroethane
METHANOL
ETHANOL

US - TSCA
All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
Not listed.

Australia - AICS

PROPAN-2-OL
Yes

Japan - MITI
PRO ALCOHOL-ENHANCED FLUX REMOVER - PROCLEAN, AEROSOL

PROPAN-2-OL

China - IECSC

PROPAN-2-OL

Philippines - PICCS

PROPAN-2-OL
Yes

16. Other information

Revision comments
NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date
2/22/2016

Revision
24

Supersedes date
2/22/2016

SDS No.
AEROSOL - PRO

Hazard statements in full
H222 Extremely flammable aerosol.
H225 Highly flammable liquid and vapor.
H280 Contains gas under pressure; may explode if heated.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H370 Causes damage to organs.

NFPA - health hazard
Irritation, minor residual injury. (1)

NFPA - flammability hazard
Ignites easily. (3)

NFPA - instability hazard
Unstable if heated. (1)

NFPA - special hazard
N/A

ACA HMIS Health rating
Slight Hazard. (1)

ACA HMIS Flammability rating
Ignites easily. (3)

ACA HMIS Physical hazard rating
Unstable if heated. (1)

ACA HMIS Personal protection rating
B

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.