

SAFETY DATA SHEET DW3 SOFT WATER DISHWASHER DETERGENT

According to Regulation (EC) No 1907/2006, Annex II, as amended.

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

1.1. Product identifier

Product name DW3 SOFT WATER DISHWASHER DETERGENT

Internal identification C875

UFI: E4E2-R0N4-Q008-6WTM

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

Identified uses Cleaning agent.

Uses advised against Use only for intended applications.

1.3. Details of the supplier of the safety data sheet

Supplier ARROW SOLUTIONS

RAWDON ROAD

MOIRA

SWADLINCOTE DERBYSHIRE DE12 6DA

TEL: +44 (0)1283 221044 FAX: +44 (0)1283 225731 sales@arrowchem.com

1.4. Emergency telephone number

Emergency telephone +44 (0) 777 8505 330 (24 hrs).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Met. Corr. 1 - H290

Health hazards Skin Corr. 1A - H314 Eye Dam. 1 - H318

Environmental hazards Not Classified

2.2. Label elements

Hazard pictograms



Signal word Danger

Hazard statements H314 Causes severe skin burns and eye damage.

H290 May be corrosive to metals.

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Precautionary statements P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water or shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER/ doctor.

P501 Dispose of contents/ container in accordance with national regulations.

P280 Wear protective clothing, gloves, eye and face protection.

UFI: E4E2-R0N4-Q008-6WTM

Contains sodium hydroxide

Detergent labelling 5 - < 15% phosphonates, < 5% amphoteric surfactants, < 5% EDTA and salts thereof

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

sodium hydroxide 10-30%

CAS number: 1310-73-2 EC number: 215-185-5 REACH registration number: 01-

2119457892-27-XXXX

Classification

Met. Corr. 1 - H290 Skin Corr. 1A - H314 Eye Dam. 1 - H318

Tetrasodium (1-hydroxyethylidene)bisphosphonic acid

CAS number: 3794-83-0 EC number: 223-267-7 REACH registration number: 01-

2119510385-52-XXXX

Classification

Acute Tox. 4 - H302 Eye Irrit. 2 - H319

tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate

1-5%

5-10%

CAS number: 51981-21-6 EC number: 257-573-7 REACH registration number: 01-

2119493601-38-XXXX

Classification

Not Classified

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TETRASODIUM ETHYLENE DIAMINE TETRAACETATE

1-5%

CAS number: 64-02-8 EC number: 200-573-9 REACH registration number: 01-

2119486762-27-XXXX

Classification

Acute Tox. 4 - H302 Acute Tox. 4 - H332 Eye Dam. 1 - H318 STOT RE 2 - H373

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 Chemical burns must be treated by a physician. Get medical attention immediately. Show this

Safety Data Sheet to the medical personnel. If medical advice is needed, have product

container or label at hand.

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for

breathing.

Ingestion Rinse mouth thoroughly with water. Do not induce vomiting. Get medical attention

immediately.

Skin contact Rinse immediately with plenty of water. Get medical attention immediately.

Eye contact Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do.

Continue rinsing. Get medical attention immediately.

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

General information Chemical burns must be treated by a physician.

Inhalation Coughing, chest tightness, feeling of chest pressure.

Ingestion May cause chemical burns in mouth and throat.

Skin contact May cause serious chemical burns to the skin.

Way cause serious chemical burns to

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Eye contact

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

Causes serious eye damage.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion

Thermal decomposition or combustion products may include the following substances: Ammonia or amines. Carbon monoxide (CO). Carbon dioxide (CO2). Nitrous gases (NOx).

Phosphorus.

5.3. Advice for firefighters

Protective actions during

No specific firefighting precautions known.

firefighting

products

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure procedures and training for emergency decontamination and disposal are in place. No action shall be taken without appropriate training or involving any personal risk. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Do not touch or walk into spilled material. Avoid contact with skin, eyes and clothing. Provide adequate ventilation. Do not handle broken packages without protective equipment. Avoid contact with contaminated tools and objects. Take care as floors and other surfaces may become slippery. Wash thoroughly after dealing with a spillage.

6.2. Environmental precautions

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

6.3. 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. Absorb spillage to prevent material damage. Absorb spillage with inert, damp, non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Wear protective clothing, gloves, eye and face protection. Avoid spilling. May be corrosive to metals. Do not mix with acid. Avoid contact with skin, eyes and clothing. Avoid contact with contaminated tools and objects. Avoid release to the environment. Do not reuse empty containers. Do not empty into drains. Do not eat, drink or smoke when using this product. Do not handle broken packages without protective equipment. Wash hands thoroughly after handling.

Advice on general occupational hygiene

Provide eyewash station.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store at temperatures between 4°C and 40°C. Keep only in the original container.

Storage class Corrosive storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

sodium hydroxide

Short-term exposure limit (15-minute): WEL 2 mg/m³

WEL = Workplace Exposure Limit.

sodium hydroxide (CAS: 1310-73-2)

DNEL Industry - Inhalation; Short term local effects: 1 mg/m³

Industry - Inhalation; Long term local effects: 1 mg/m³ Consumer - Inhalation; Short term local effects: 1 mg/m³

Tetrasodium (1-hydroxyethylidene)bisphosphonic acid (CAS: 3794-83-0)

DNEL Workers - Inhalation; Long term systemic effects: 16.9 mg/m³

Workers - Inhalation; Long term local effects: 10 mg/m³ Workers - Dermal; Long term systemic effects: 48 mg/kg/day Consumer - Inhalation; Long term systemic effects: 4.2 mg/m³ Consumer - Inhalation; Long term local effects: 10 mg/m³ Consumer - Dermal; Long term systemic effects: 24 mg/kg/day Consumer - Oral; Long term systemic effects: 2.4 mg/kg/day

PNEC - Fresh water; 0.096 mg/l

- marine water; 0.00963 mg/l

- STP; 58 mg/l

Sediment (Freshwater); 193 mg/kgSediment (Marinewater); 19.3 mg/kg

- Soil; 14 mg/kg

tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate (CAS: 51981-21-6)

DNEL Workers - Inhalation; Long term systemic effects: 7.3 mg/m³

Workers - Dermal; Long term systemic effects: 15,000 mg/kg/day General population - Inhalation; Long term systemic effects: 1.8 mg/m³ General population - Dermal; Long term systemic effects: 7,500 mg/kg/day General population - Oral; Long term systemic effects: 1.5 mg/kg/day

TETRASODIUM ETHYLENE DIAMINE TETRAACETATE (CAS: 64-02-8)

DNEL Workers - Inhalation; Long term local effects, systemic effects: 1.5 mg/m³

Workers - Inhalation; Short term local effects, systemic effects: 3 mg/m³ Consumer - Inhalation; Long term local effects, systemic effects: 0.6 mg/m³ Consumer - Inhalation; Short term local effects, systemic effects: 1.2 mg/m³

Consumer - Oral; Long term systemic effects, local effects: 25 mg/m³

PNEC - Fresh water; 2.2 mg/l

- marine water; 0.22 mg/l

Intermittent release; 1.2 mg/lSTP; 43 mg/l

- Soil; 0.72 mg/kg

8.2. Exposure controls

Protective equipment







Appropriate engineering controls

Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. The following protection should be worn: Wear tight-fitting, chemical splash goggles or face shield.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. The selected gloves should have a breakthrough time of at least 4 hours. The breakthrough time for any glove material may be different for different glove manufacturers. When used with mixtures, the protection time of gloves cannot be accurately estimated. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Protective gloves should have a minimum thickness of 0.15 mm. Glove thickness is not necessarily a good measure of glove resistance as the permeation rate will depend on the exact glove composition. The choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Repeated exposure to chemicals will degrade the ability of the glove to provide resistance to chemicals. Specific work environments and material handling practices may vary, therefore safety procedures should be developed for each intended application. Gloves made from the following material may provide suitable chemical protection: Neoprene. Nitrile rubber. Rubber (natural, latex).

Other skin and body protection

Wear apron or protective clothing in case of contact. Provide eyewash station.

Hygiene measures

Wash hands thoroughly after handling. Wash contaminated clothing before reuse.

Respiratory protection

No specific requirements are anticipated under normal conditions of use. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. If ventilation is inadequate, suitable respiratory protection must be worn. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140. Gas and combination filter cartridges should comply with European Standard EN14387. Particulate filters should comply with European Standard EN143. Disposable filtering half mask respirators should comply with European Standard EN149 or EN405. This represents the minimum standard required and better specification protection should be used if available. Check that the respirator fits tightly and the filter is changed regularly. Wear a respirator fitted with the following cartridge: Combination filter, type A2/P2. Organic vapour + dust and mist filter.

Environmental exposure controls

Store in a demarcated bunded area to prevent release to drains and/or watercourses. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance Clear liquid.

Colour Colourless to pale yellow.

Odour Characteristic.

pH (concentrated solution): >13.0

Initial boiling point and range > 103°C

Flash point Not applicable.

Evaporation rate Not determined.

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Flammability (solid, gas) Not applicable.

Upper/lower flammability or

explosive limits

Viscosity

Not applicable.

Other flammability Not applicable.

Vapour pressure Not determined.

Relative density ~ 1.24 @ 25°C

Solubility(ies) Completely soluble in water.

Partition coefficientNot determined.Auto-ignition temperatureNot applicable.Decomposition TemperatureNot applicable.

Explosive propertiesThere are no chemical groups present in the product that are associated with explosive

properties.

Not determined.

Oxidising properties There are no chemical groups present in the product that are associated with oxidising

properties.

Comments Information declared as "Not available" or "Not applicable" is not considered to be relevant to

the implementation of the proper control measures.

9.2. Other information

Other information Not determined.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Reactions with the following materials may generate heat: Acids.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous

Not determined.

reactions

products

10.4. Conditions to avoid

Conditions to avoid Reactions with the following materials may generate heat: Strong acids. Acids.

10.5. Incompatible materials

Materials to avoid Strong acids. Acids.

10.6. Hazardous decomposition products

Hazardous decomposition

Thermal decomposition or combustion products may include the following substances:

Ammonia or amines. Carbon monoxide (CO). Carbon dioxide (CO2). Nitrous gases (NOx).

Phosphorus.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅o) Based on available data the classification criteria are not met.

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ATE oral (mg/kg) 13,755.34

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

ATE inhalation (gases ppm) 937,500.0
ATE inhalation (vapours mg/l) 2,291.67

ATE inhalation (dusts/mists

312.5

mg/l)

Skin corrosion/irritation

Skin corrosion/irritation Causes severe burns.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisationBased on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitroDoes not contain any substances known to be mutagenic.

Carcinogenicity

Carcinogenicity Does not contain any substances known to be carcinogenic.

Reproductive toxicity

Reproductive toxicity - fertility Does not contain any substances known to be toxic to reproduction.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation Coughing, chest tightness, feeling of chest pressure.

Ingestion May cause chemical burns in mouth, oesophagus and stomach.

Skin contact Causes severe burns.

Eye contact Causes serious eye damage.

Acute and chronic health

Causes severe burns.

hazards

Route of exposure Dermal Skin and/or eye contact Oral

Target organs Eyes Skin

Medical symptoms Chemical burns.

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Toxicological information on ingredients.

Tetrasodium (1-hydroxyethylidene)bisphosphonic acid

Acute toxicity - oral

Acute toxicity oral (LD50

mg/kg)

940.0

Species Rat

940.0 ATE oral (mg/kg)

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 5,000.0

mg/kg)

Rabbit **Species**

ATE dermal (mg/kg) 5,000.0

tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate

Acute toxicity - oral

Acute toxicity oral (LD₅o

mg/kg)

2,001.0

Species Rat

ATE oral (mg/kg) 2,001.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 2,000.1

mg/kg) **Species**

Rat

ATE dermal (mg/kg) 2,000.1

TETRASODIUM ETHYLENE DIAMINE TETRAACETATE

Acute toxicity - oral

Acute toxicity oral (LD₅o

1,780.0

mg/kg)

Species Rat

ATE oral (mg/kg) 1,780.0

Acute toxicity - inhalation

Notes (inhalation LC50)

ATE inhalation (gases

11,250.0

ppm)

ATE inhalation (vapours

mg/l)

27.5

ATE inhalation

3.75

(dusts/mists mg/l)

SECTION 12: Ecological information

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Ecotoxicity Not regarded as dangerous for the environment. The product may affect the acidity (pH) of

water which may have hazardous effects on aquatic organisms.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish Not determined.

Chronic aquatic toxicity

Chronic toxicity - fish early life Not determined.

stage

Ecological information on ingredients.

sodium hydroxide

Acute aquatic toxicity

Acute toxicity - fish LC50, 48 hours: ~ 145 mg/l, Poecilia reticulata (Guppy)

Acute toxicity - aquatic

invertebrates

EC₅o, 48 hours: ~ 76 mg/l, Daphnia magna

Tetrasodium (1-hydroxyethylidene)bisphosphonic acid

Acute aquatic toxicity

Acute toxicity - fish LC₅o, 96 hours: 278 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic

invertebrates

EC₅₀, 48 hours: 754 mg/l, Daphnia magna

Chronic aquatic toxicity

Chronic toxicity - aquatic

invertebrates

NOEC, 28 days: 9.63 mg/l, Daphnia magna

tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: > 100 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic

invertebrates

EC₅₀, 48 hours: > 100 mg/l, Daphnia magna

TETRASODIUM ETHYLENE DIAMINE TETRAACETATE

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: > 100 mg/l, Lepomis macrochirus (Bluegill)

Acute toxicity - aquatic

invertebrates

EC₅o, 48 hours: >100 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability The product is expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Partition coefficient Not determined.

12.4. Mobility in soil

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB

assessment

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

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methodsDisposal of this product, process solutions, residues and by-products should at all times

comply with the requirements of environmental protection and waste disposal legislation and

any local authority requirements.

SECTION 14: Transport information

General For limited quantity packaging/limited load information, consult the relevant modal

documentation using the data shown in this section.

Special Provisions note

14.1. UN number

UN No. (ADR/RID) 1760

UN No. (IMDG) 1760

UN No. (ICAO) 1760

14.2. UN proper shipping name

Proper shipping name

(ADR/RID)

CORROSIVE LIQUID, N.O.S.(sodium hydroxide)

Proper shipping name (IMDG) CORROSIVE LIQUID, N.O.S.(sodium hydroxide)

Proper shipping name (ICAO) CORROSIVE LIQUID, N.O.S.(sodium hydroxide)

14.3. Transport hazard class(es)

ADR/RID class 8

ADR/RID classification code C9

ADR/RID label 8

IMDG class 8

ICAO class/division 8

Transport labels



14.4. Packing group

ADR/RID packing group II
IMDG packing group II

Ш

ICAO packing group

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No

14.6. Special precautions for user

EmS F-A, S-B

ADR transport category 2

Emergency Action Code 2X

Hazard Identification Number

(ADR/RID)

Tunnel restriction code (E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

80

Transport in bulk according to Not applicable. **Annex II of MARPOL 73/78**

and the IBC Code

SECTION 15: Regulatory information

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

National regulations Control of Substances Hazardous to Health Regulations 2002 (as amended).

EU legislation Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March

2004 on detergents (as amended).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of

Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as

amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

Guidance Workplace Exposure Limits EH40.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by

Road.

CAS: Chemical Abstracts Service.

DNEL: Derived No Effect Level.

EC₅₀: 50% of maximal Effective Concentration.

IATA: International Air Transport Association.

IMDG: International Maritime Dangerous Goods.

 LC_{50} : Lethal Concentration to 50 % of a test population.

LD₅o: Lethal Dose to 50% of a test population (Median Lethal Dose).

NOEC: No Observed Effect Concentration.

PBT: Persistent, Bioaccumulative and Toxic substance.

PNEC: Predicted No Effect Concentration.

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation

(EC) No 1907/2006. UN: United Nations.

vPvB: Very Persistent and Very Bioaccumulative.

Classification abbreviations

and acronyms

Acute Tox. = Acute toxicity

Eye Dam. = Serious eye damage

Eye Irrit. = Eye irritation

Met. Corr. = Corrosive to metals Skin Corr. = Skin corrosion

STOT RE = Specific target organ toxicity-repeated exposure

Classification procedures according to Regulation (EC)

1272/2008

Met. Corr. 1 - H290, Skin Corr. 1A - H314: Calculation method.

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

Revision date 10/12/2020

Revision 4.1

Supersedes date 23/07/2019

SDS number 25241

Hazard statements in full H290 May be corrosive to metals.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage. H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H373 May cause damage to organs (Respiratory system, lungs) through prolonged or

repeated exposure.

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.