













SAFETY DATA SHEET

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

1.1. Product identifier

Trade name or designation

HumiSeal 1B15

of the mixture

Registration number

Synonyms None.

Product code HumiSeal Europe 1B15

Issue date 17-June-2015

Version number 03

Revision date 24-January-2019 Supersedes date 24-January-2019

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

Identified uses Protective Coating for Printed Circuit Board

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name HUMISEAL EUROPE LTD.

Address 505 Eskdale Road

Winnersh

Wokingham Berkshire RG41 5TU

UK

Division A CHASE CORPORATION COMPANY

Telephone General Assistance 44 (0) 118 944 2333

e-mail europetechsupport@chasecorp.com

Contact person Not available.

1.4. Emergency telephone Chemtrec U.K. +(44) 870 820 0418

number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards

Flammable liquids Category 2 H225 - Highly flammable liquid and

vapour.

Health hazards

exposure

Skin corrosion/irritation Category 2 H315 - Causes skin irritation.
Serious eye damage/eye irritation Category 2 H319 - Causes serious eye

irritation.

Reproductive toxicity (the unborn child) Category 2 H361d - Suspected of damaging

the unborn child.

Specific target organ toxicity - single Category 3 narcotic effects H336 - May cause drowsiness or

dizziness.

Specific target organ toxicity - repeated

exposure

Category 2

H373 - May cause damage to organs through prolonged or

repeated exposure.

Aspiration hazard Category 1 H304 - May be fatal if swallowed

and enters airways.

Environmental hazards

long-term aquatic hazard

Hazardous to the aquatic environment, Category 2

H411 - Toxic to aquatic life with

long lasting effects.

Hazard summary

May be ignited by heat, sparks or flames. May be fatal if swallowed and enters airways. May cause damage to organs through prolonged or repeated exposure. May cause drowsiness and dizziness. Causes serious eye irritation. Causes skin irritation. Possible reproductive hazard. Dangerous for the environment if discharged into watercourses. Occupational exposure to the substance or mixture may cause adverse health effects.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Methyl ethyl ketone, Toluene Contains:

Hazard pictograms



Signal word Danger

Hazard statements

Highly flammable liquid and vapour. H225

May be fatal if swallowed and enters airways. H304

Causes skin irritation. H315

Causes serious eye irritation. H319 May cause drowsiness or dizziness. H336 Suspected of damaging the unborn child. H361d

May cause damage to organs through prolonged or repeated exposure. H373

Toxic to aquatic life with long lasting effects. H411

Precautionary statements

Prevention

Obtain special instructions before use. P201

Do not handle until all safety precautions have been read and understood. P202

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P210

Keep container tightly closed. P233

Ground and bond container and receiving equipment. P240 Use explosion-proof electrical/ventilating/lighting equipment. P241

Use non-sparking tools. P242

Take action to prevent static discharges. P243

Do not breathe mist or vapour. P260 Wash thoroughly after handling. P264

Use only outdoors or in a well-ventilated area. P271

Avoid release to the environment. P273

Wear protective gloves/protective clothing/eye protection/face protection. P280

Response

IF SWALLOWED: Immediately call a POISON CENTRE/doctor. P301 + P310

Do NOT induce vomiting. P331

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing. P304 + P340

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present P305 + P351 + P338

and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention. P308 + P313 Call a POISON CENTRE/doctor if you feel unwell. P312 If skin irritation occurs: Get medical advice/attention. P332 + P313 If eye irritation persists: Get medical advice/attention. P337 + P313 Take off contaminated clothing and wash it before reuse. P362 + P364 In case of fire: Use appropriate media to extinguish. P370 + P378

Collect spillage. P391

Storage

Store in a well-ventilated place. Keep container tightly closed. P403 + P233

Store in a well-ventilated place. Keep cool. P403 + P235

Store locked up. P405

Disposal

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

Supplemental label information

35 % of the mixture consists of component(s) of unknown acute oral toxicity. 100 % of the mixture consists of component(s) of unknown acute inhalation toxicity. 100 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 50 % of the mixture consists

of component(s) of unknown long-term hazards to the aquatic environment.

Not a PBT or vPvB substance or mixture. 2.3 Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	9/	6 CAS-N	o. / EC No.	REACH Registration No.	Index No.	Notes
Toluene	50 -		8-88-3 3-625-9	01-2119471310-51-XXXX	601-021-00-3	#
Classification:	Flam. Liq. 2;H225, 2;H361d, STOT R			rrit. 2;H315, STOT SE 3;H33 c 2;H411	36, Repr.	
Methyl ethyl ketone	10 -		3-93-3 1-159-0	01-2119457290-43-XXXX	606-002-00-3	#
Classification:	Flam. Liq. 2;H225,	, Eye Irrit. 2;H	319, STOT	SE 3;H336		
Other components belo	ow reportable 30 -	< 40				

levels

List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance. vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information Take off all contaminated clothing immediately. IF exposed or concerned: Get medical

advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing

before reuse.

4.1. Description of first aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON

CENTRE or doctor/physician if you feel unwell.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation

occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if Eye contact

present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If Ingestion

vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

4.2. Most important symptoms and effects, both acute and

delayed

Aspiration may cause pulmonary oedema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards Highly flammable liquid and vapour.

5.1. Extinguishing media

Suitable extinguishing

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

media

Unsuitable extinguishing

media

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

5.2. Special hazards arising from the substance or mixture Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

For emergency responders

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up.

6.2. Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	
Methyl ethyl ketone (CAS 78-93-3)	STEL	899 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	191 mg/m3	

Material name: HumiSeal 1B15
HumiSeal Europe 1B15 Version #: 03 Revision date: 24-January-2019 Issue date: 17-June-2015

SDS UK

UK. EH40 Biological Monitoring Guidance Values (BMGVs) Components Value Determinant Specimen Sampling Time Methyl ethyl ketone (CAS 70 umol/l Butan-2-one Urine * 78-93-3) * - For sampling details, please see the source document. scommended monitoring occedures recedures Pollow standard monitoring procedures. Pollow standa	Components	` _	ype	Va	alue
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ygiene measures Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.	ygiene measures	personal hygien drinking, and/or	e measures, such as	washing after ha	ndling the material and before eating,

SECTION 9: Physical and chemical properties

Environmental exposure

controls

9.1. Information on basic physical and chemical properties

Material name: HumiSeal 1B15 SDS UK

Inform appropriate managerial or supervisory personnel of all environmental releases.

Appearance

Physical state Liquid.
Form Liquid.
Colour Clear.
Odour Aromatic
Odour threshold Not available.
pH Does not apply.

Melting point/freezing point -94.9 °C (-138.82 °F) estimated Initial boiling point and boiling 79.59 °C (175.26 °F) estimated

range

Flash point <= 6.0 °C (<= 42.8 °F)

Evaporation rate 3.6 BuAc

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower

1.6 % estimated

11.2 % estimated

(%)

Flammability limit - upper

(%)

Vapour pressure Vapour density 57 hPa estimated Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient Not available.

(n-octanol/water)

Auto-ignition temperature 404 °C (759.2 °F) estimated

Decomposition temperature Not available. **Viscosity** 470 cP

Viscosity temperature 25 °C (77 °F) Explosive properties Not explosive. Oxidising properties Not oxidising.

9.2. Other information

Brookfield viscosity470 cPDensity0.88 g/cm3Miscible (water)NegligiblePercent volatile63 - 67 % v/v

Specific gravity 0.88 VOC 589 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability Material is stable under normal conditions.

10.3. Possibility of hazardous

reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the

flash point. Contact with incompatible materials.

10.5. Incompatible materials Strong oxidising agents. Ammonia. Amines. Isocyanates. Caustics.

10.6. Hazardous No hazardous decomposition products are known.

decomposition products

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation May cause damage to organs through prolonged or repeated exposure by inhalation. May cause

drowsiness and dizziness. Headache. Nausea, vomiting.

Skin contact Causes skin irritation.

Eye contact Causes serious eye irritation.

Ingestion Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious

chemical pneumonia.

Aspiration may cause pulmonary oedema and pneumonitis. May cause drowsiness and dizziness. **Symptoms**

Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing,

redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

11.1. Information on toxicological effects

May be fatal if swallowed and enters airways. **Acute toxicity**

Components	Species	Test Results
Methyl ethyl ketone (CAS 7	(8-93-3)	
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 8000 mg/kg
Oral		
LD50	Rat	2300 - 3500 mg/kg
Toluene (CAS 108-88-3)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	12120 mg/kg
Oral		
LD50	Rat	2.6 g/kg

^{*} Estimates for product may be based on additional component data not shown.

Causes skin irritation. Skin corrosion/irritation

Serious eye damage/eye

irritation

Causes serious eye irritation.

Respiratory sensitisation Due to partial or complete lack of data the classification is not possible. Skin sensitisation Due to partial or complete lack of data the classification is not possible. Germ cell mutagenicity Due to partial or complete lack of data the classification is not possible. Due to partial or complete lack of data the classification is not possible. Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Toluene (CAS 108-88-3) 3 Not classifiable as to carcinogenicity to humans.

Suspected of damaging the unborn child. Reproductive toxicity May cause drowsiness and dizziness. Specific target organ toxicity -

single exposure

Specific target organ toxicity -

repeated exposure

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways. **Aspiration hazard**

Mixture versus substance

information

No information available.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects. Due to partial or complete lack of data the

classification for hazardous to the aquatic environment, acute hazard, is not possible.

20.4294 mg/l, 48 hours estimated
174.9754 mg/l, 96 hours estimated
Test Results
4025 - 6440 mg/l, 48 hours
n > 400 mg/l, 96 hours
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Material name: HumiSeal 1B15

HumiSeal Europe 1B15 Version #: 03 Revision date: 24-January-2019 Issue date: 17-June-2015

Toluene (CAS 108-88-3)

Aquatic

Crustacea EC50 Water flea (Daphnia magna) 5.46 - 9.83 mg/l, 48 hours

Fish LC50 Coho salmon,silver salmon 8.11 mg/l, 96 hours (Oncorhynchus kisutch)

12.2. Persistence and

degradability

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Methyl ethyl ketone 0.29
Toluene 2.73

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB

assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation

potential.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some

product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

EU waste codeThe Waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow

this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches

with chemical or used container. Dispose of contents/container in accordance with

local/regional/national/international regulations.

Special precautionsDispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number UN1263 **14.2. UN proper shipping** Paint

name

14.3. Transport hazard class(es)

Class 3
Subsidiary risk Label(s) 3
Hazard No. (ADR) 33
Tunnel restriction code D/E
14.4. Packing group ||

14.4. Packing group 14.5. Environmental hazards No.

14.6. Special precautions Not available.

for user

RID

14.1. UN number UN1263 **14.2. UN proper shipping** Paint

name

14.3. Transport hazard class(es)

Class 3
Subsidiary risk Label(s) 3
14.4. Packing group ||
14.5. Environmental hazards No.

^{*} Estimates for product may be based on additional component data not shown.

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14.6. Special precautions
                                 Not available.
    for user
ADN
                                 UN1263
    14.1. UN number
    14.2. UN proper shipping
                                 Paint
    name
    14.3. Transport hazard class(es)
        Class
        Subsidiary risk
        Label(s)
                                 3
                                 Ш
    14.4. Packing group
    14.5. Environmental hazards No.
    14.6. Special precautions
                                 Not available.
    for user
IATA
    14.1. UN number
                                 UN1263
                                 PAINT
    14.2. UN proper shipping
    name
    14.3. Transport hazard class(es)
        Class
        Subsidiary risk
    14.4. Packing group
                                 Ш
    14.5. Environmental hazards No.
    ERG Code
    14.6. Special precautions
                                 Not available.
    for user
    Other information
        Passenger and cargo
                                 Allowed with restrictions.
        aircraft
        Cargo aircraft only
                                 Allowed with restrictions.
IMDG
    14.1. UN number
                                 UN1263
                                 PAINT
    14.2. UN proper shipping
    name
    14.3. Transport hazard class(es)
        Class
        Subsidiary risk
    14.4. Packing group
                                 Ш
    14.5. Environmental hazards
        Marine pollutant
                                 No.
                                 F-E, <u>S-E</u>
    EmS
    14.6. Special precautions
                                 Not available.
    for user
                                 Not established.
14.7. Transport in bulk
according to Annex II of
MARPOL 73/78 and the IBC
Code
ADN; ADR; IATA; IMDG; RID
```



SECTION 15: Regulatory information

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

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Toluene (CAS 108-88-3)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Methyl ethyl ketone (CAS 78-93-3)

Toluene (CAS 108-88-3)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Methyl ethyl ketone (CAS 78-93-3)

Toluene (CAS 108-88-3)

Other regulations Pregnant women should not work with the product, if there is the least risk of exposure. The

product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No.

as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No

1907/2006, as amended.

National regulations Follow national regulation for work with chemical agents. Young people under 18 years old are not

allowed to work with this product according to EU Directive 94/33/EC on the protection of young

people at work, as amended.

15.2. Chemical safety

assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations Not available.

References Not available.

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any H-statements not written out in full under

Sections 2 to 15

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H361d Suspected of damaging the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Revision information SECTION 8: Exposure controls/personal protection: Respiratory protection

Training information Follow training instructions when handling this material.

Disclaimer The information and recommendations in this safety data sheet are, to the best of our knowledge,

accurate as of the date of issue. Nothing herein shall be deemed to create any warranty, expressed or implied. It is the responsibility of the user to determine the applicability of this

information and the suitability of the material or product for any particular purpose

Material name: HumiSeal 1B15

SDS UK