

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of the substance/preparation	Humiseal 1B18
Use of the substance/preparation	Protective Coating for Printed Circuit Board
Version No.	01
Product code	HumiSeal Europe 1B18
Manufacturer information	HUMISEAL EUROPE LTD. 505 Eskdale Road Winnersh Wokingham Berkshire RG41 5TU United Kingdom europetechsupport@chasecorp.com General Assistance 44 (0) 118 944 2333 Chemtrec USA 1-800-424-9300 OutSide USA +1 703-741-5970

2. HAZARDS IDENTIFICATION

This preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification	F;R11, R66-67
Physical hazards	Highly flammable.
Health hazards	Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.
Environmental hazards	Not classified as an environmental hazard.
Specific hazards	Highly flammable. Dries out the skin. Do not breathe dust/fume/gas/mist/vapors/spray.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS #	Percent	EC-No.	Classification
n-Butyl acetate	123-86-4	40 - 60	204-658-1	R10, R66-67
Methyl ethyl ketone	78-93-3	10 - 20	201-159-0	F;R11, Xi;R36, R66-67
Other components below reportable levels		20 - 40		

4. FIRST-AID MEASURES

Inhalation	Move to fresh air. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation persists, call a physician.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control centre immediately.
General advice	In case of shortness of breath, give oxygen.
Notes to physician	In case of shortness of breath, give oxygen. Symptoms may be delayed.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Alcohol resistant foam. Dry powder. Carbon dioxide (CO ₂).
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Extinguishing media which must not be used for safety reasons	Do not use water jet as an extinguisher, as this will spread the fire.
Unusual fire & explosion hazards	Heat may cause the containers to explode.
Special protective equipment for fire-fighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Structural firefighters protective clothing will only provide limited protection.
Fire fighting equipment/instructions	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Use standard firefighting procedures and consider the hazards of other involved materials. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Move containers from fire area if you can do so without risk. Withdraw immediately in case of rising sound from venting safety device or any discolouration of tanks due to fire. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Containment procedures	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.
Personal precautions	Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Avoid inhalation of vapours or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment.
Methods for cleaning up	Extinguish all flames in the vicinity. This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. 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: 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. This material and its container must be disposed of as hazardous waste. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE

Handling	May be ignited by open flame. Keep away from sources of ignition - No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid prolonged exposure.
Storage	Do not handle or store near an open flame, heat or other sources of ignition. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

India. OELs. The Factories Act, The Second Schedule: Permissible Levels of Certain Chemical Substances in the Work Environment

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	885 mg/m3
	TWA	300 ppm 590 mg/m3
		200 ppm
n-Butyl acetate (CAS 123-86-4)	STEL	950 mg/m3
	TWA	200 ppm 710 mg/m3
		150 ppm

Recommended monitoring procedures

Additional exposure data	Not available.
Engineering measures	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate.
Personal protective equipment	
Respiratory protection	Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Hand protection	Not normally needed.
Eye protection	If contact is likely, safety glasses with side shields are recommended.
Skin and body protection	Use protective skin cream before handling the product.
Environmental exposure controls	Environmental manager must be informed of all major releases.
Hygiene measures	When using do not smoke.
Control parameters	Follow standard monitoring procedures.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Liquid.
Form	Liquid.
Colour	Clear.
Odour	Aromatic
pH	Does not apply.
Melting point/freezing point	-86.64 °C (-123.95 °F) estimated
Boiling point, initial boiling point, and boiling range	79.59 °C (175.26 °F) estimated
Flash point	11.0 °C (51.8 °F)
Auto-ignition temperature	404 °C (759.2 °F) estimated
Flammability limit - lower (%)	1.4 % estimated
Flammability limit - upper (%)	10 % estimated
Vapour pressure	39.54 hPa estimated
Vapour density	Not available.
Evaporation rate	3.2 BuAc
Specific gravity	0.92
Density	0.92 g/cm3
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Decomposition temperature	Not available.
Other data	
Brookfield viscosity	250 cP
Percent volatile	70.5 %
VOC (Weight %)	70.5 %

10. STABILITY AND REACTIVITY

Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Hazardous decomposition products	No hazardous decomposition products are known.
Stability	Risk of ignition.
Materials to avoid	Strong oxidising agents. Nitrates. Ammonia. Amines. Isocyanates Caustics.

11. TOXICOLOGICAL INFORMATION

Toxicological data

Product	Species	Test results
Humiseal 1B18		
<u>Acute</u>		
Dermal		
LD50	Rabbit	47416 mg/kg estimated 10086 ml/kg estimated
Inhalation		
LC50	Mouse	66667 ppm, 45 Minutes estimated 7849 mg/l, 2 Hours estimated
	Rat	70041 ppm, 4 Hours estimated
	Wistar rat	289 mg/l, 4 Hours estimated
Oral		
LD50	Mouse	7868 ml/kg estimated 4059 mg/kg estimated
	Rat	8916 mg/kg estimated
Components	Species	Test results

Methyl ethyl ketone (CAS 78-93-3)

Acute

Dermal

LD50

Rabbit

> 8000 mg/kg

Inhalation

LC50

Mouse

11000 ppm, 45 Minutes

Rat

11700 ppm, 4 Hours

Oral

LD50

Mouse

670 mg/kg

Rat

2300 - 3500 mg/kg

n-Butyl acetate (CAS 123-86-4)

Acute

Inhalation

LC50

Wistar rat

160 mg/l, 4 Hours

Oral

LD50

Rat

14000 mg/kg

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

Routes of exposure

Inhalation. Skin contact.

Chronic toxicity

Prolonged inhalation may be harmful.

Carcinogenicity

Not classifiable as to carcinogenicity to humans.

Mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductivity

Not classified.

Epidemiology

No epidemiological data is available for this product.

12. ECOLOGICAL INFORMATION

Ecotoxicological data

Product		Species	Test results
Humiseal 1B18			
Aquatic			
Crustacea	EC50	Daphnia	5625.8491 mg/l, 48 hours estimated
Fish	LC50	Fish	162.3846 mg/l, 96 hours estimated

Components	Species		Test results
Methyl ethyl ketone (CAS 78-93-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	4025 - 6440 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	> 400 mg/l, 96 hours
n-Butyl acetate (CAS 123-86-4)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	17 - 19 mg/l, 96 hours
* Estimates for product may be based on additional component data not shown.			
Ecotoxicity	Not expected to be harmful to aquatic organisms.		
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.		
Bioaccumulation			
Bioaccumulative potential			
Octanol/water partition coefficient log Kow			
Methyl ethyl ketone		0.29	
n-Butyl acetate		1.78	
Aquatic toxicity	Not available.		
Mobility	This product is miscible in water.		

13. DISPOSAL CONSIDERATIONS

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not discharge into drains, water courses or onto the ground. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	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). Avoid discharge into water courses or onto the ground.
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.

14. TRANSPORT INFORMATION

IATA

UN number	1263
UN proper shipping name	PAINT
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	1263
UN proper shipping name	PAINT
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code

Not available.

IATA; IMDG



15. REGULATORY INFORMATION

Labeling

Symbol(s)



Highly flammable

R-phrases(s)

R11 Highly flammable.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

S-phrases(s)

S9 Keep container in a well-ventilated place.
S16 Keep away from sources of ignition - No smoking.
S23 Do not breathe gas/fumes/vapour/spray.
S60 This material and its container must be disposed of as hazardous waste.

Follow national regulation for work with chemical agents.

Regulatory information

The product is classified and labelled in accordance with EC directives or respective national laws.
This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

16. OTHER INFORMATION

Wording of the R-phrases in sections 2 and 3

R10 Flammable.
R11 Highly flammable.
R36 Irritating to eyes.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

International Inventories

Country(s) or region

Europe

Inventory name

European Inventory of Existing Commercial Chemical
Substances (EINECS)

On inventory (yes/no)*

Yes

Europe

European List of Notified Chemical Substances (ELINCS)

Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Disclaimer

62000 cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information offered in this data sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication, however, no guarantee is made to its accuracy. 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 other process. This material is intended for industrial use only. No warranty, expressed or implied is made.

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Revision Information

Product and Company Identification: Product and Company Identification