

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

1.1 Product identifier

Trade name: 2K UNIVERSAL HARDENER (Code 7400.1080 1Ltr, 7400.1081 2.5Ltr, 7400.1082 5Ltr)

1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses:
professional use.

Uses advised against: do-it-yourself

Application of the substance / the mixture Hardening agent/ Curing agent

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Abcon Industrial Products Ltd

CavMac Hose Building, Cavan Road, Cootehill, Co Cavan

Tel. +353 49 5552340

Fax: +353 49 5552312

sales@abconireland.com

Further information obtainable from: sales@abconireland.com

1.4 Emergency telephone number: +353 49 5552340

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS07

Signal word Warning

Hazard-determining components of labelling:

hexamethylene diisocyanate homopolymer

n-butyl acetate

tosyl isocyanate

Hazard statements

H226 Flammable liquid and vapour.

H332 Harmful if inhaled.

H317 May cause an allergic skin reaction.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statements

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

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Trade name: 2K UNIVERSAL HARDENER

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- P261 Avoid breathing mist/vapours/spray.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.
 Contains isocyanates. May produce an allergic reaction.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29	n-butyl acetate ----- ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	25-50%
CAS: 28182-81-2 NLP: 500-060-2 Reg.nr.: 01-2119485796-17	hexamethylene diisocyanate homopolymer ----- ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	25-50%
CAS: 108-65-6 EINECS: 203-603-9 Reg.nr.: 01-2119475791-29	2-methoxy-1-methylethyl acetate ----- ⚠ Flam. Liq. 3, H226	10-25%
CAS: 4083-64-1 EINECS: 223-810-8 Reg.nr.: 01-2119980050-47	tosyl isocyanate ----- ⚠ Resp. Sens. 1, H334; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.1-<0.5%

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Take affected persons out of danger area and lay down.

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

Can form explosive gas-air mixtures.

Formation of toxic gases is possible during heating or in case of fire.

Hydrogen cyanide (HCN)

Isocyanate vapors.

Carbon monoxide and carbon dioxide

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

Additional information

Cool endangered receptacles with water spray.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources.

6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Do not flush with water or aqueous cleansing agents

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Do not inhale gases / fumes / aerosols.

Do not eat, drink, smoke or sniff while working.

Do not allow to enter sewers/ surface or ground water.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Use explosion-proof apparatus / fittings and spark-proof tools.

Fumes can combine with air to form an explosive mixture.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Store only in the original receptacle.

Information about storage in one common storage facility:

Store away from foodstuffs.

Store away from oxidising agents.

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Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Store receptacle in a well ventilated area.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:	
123-86-4 n-butyl acetate	
WEL (Great Britain)	Short-term value: 966 mg/m ³ , 200 ppm Long-term value: 724 mg/m ³ , 150 ppm
108-65-6 2-methoxy-1-methylethyl acetate	
WEL (Great Britain)	Short-term value: 548 mg/m ³ , 100 ppm Long-term value: 274 mg/m ³ , 50 ppm Sk
IOELV (EU)	Short-term value: 550 mg/m ³ , 100 ppm Long-term value: 275 mg/m ³ , 50 ppm Skin
4083-64-1 tosyl isocyanate	
WEL (Great Britain)	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
DNELs	
123-86-4 n-butyl acetate	
Dermal	DNEL 7 mg/kg bw/day (long-term - systemic effects, workers)
Inhalative	DNEL 960 mg/m ³ (acute - systemic effects, workers) 960 mg/m ³ (acute - local effects, workers) 480 mg/m ³ (long-term - systemic effects, workers) 480 mg/m ³ (long-term - local effects, workers)
28182-81-2 hexamethylene diisocyanate homopolymer	
Inhalative	DNEL 1 mg/m ³ (acute - local effects, workers) 0.5 mg/m ³ (long-term - local effects, workers)
108-65-6 2-methoxy-1-methylethyl acetate	
Dermal	DNEL 153.5 mg/kg bw/day (long-term - systemic effects, workers)
Inhalative	DNEL 275 mg/m ³ (long-term - systemic effects, workers)
4083-64-1 tosyl isocyanate	
Dermal	DNEL 0.92 mg/kg bw/day (long-term - systemic effects, workers)
Inhalative	DNEL 3.24 mg/m ³ (long-term - systemic effects, workers)
PNECs	
123-86-4 n-butyl acetate	
PNEC	0.18 mg/l (freshwater environment) 0.018 mg/l (marine environment) 0.36 mg/l (intermittent releases) 0.981 mg/kg (freshwater sediment environment) 35.6 mg/l (sewage treatment plants)

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28182-81-2 hexamethylene diisocyanate homopolymer	
PNEC	0.127 mg/l (freshwater environment) 0.0127 mg/l (marine environment) 1.27 mg/l (intermittent releases) 266700 mg/kg (freshwater sediment environment) 26670 mg/kg (marine sediment environment) 53182 mg/kg (soil) 38.3 mg/l (sewage treatment plants)
108-65-6 2-methoxy-1-methylethyl acetate	
PNEC	0.635 mg/l (freshwater environment) 0.0635 mg/l (marine environment) 6.35 mg/l (intermittent releases) 3.29 mg/kg (freshwater sediment environment) 0.329 mg/kg (marine sediment environment) 100 mg/l (sewage treatment plants)
4083-64-1 tosyl isocyanate	
PNEC	0.03 mg/l (freshwater environment) 0.003 mg/l (marine environment) 0.0172 mg/kg (marine environment) 0.3 mg/l (intermittent releases) 0.172 mg/kg (freshwater sediment environment) 0.0168 mg/kg (soil) 0.4 mg/l (sewage treatment plants)

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Ensure good ventilation/exhaustion at the workplace.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Keep ignition sources away - Do not smoke.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Do not eat or drink while working.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Filter A/P2

Use suitable respiratory protective device in case of insufficient ventilation.

Protection of hands:



Protective gloves

Check the permeability prior to each renewed use of the glove.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation (EN 374).

Material of gloves

Butyl rubber, BR

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Nitrile rubber, NBR

PVA gloves

Recommended thickness of the material: $\geq 0,7$ mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

Value for the permeation: Level 6 ≥ 480 min.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Colour:	Colourless/ slightly yellow
Odour:	Characteristic
Odour threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	124 °C Undetermined.

Flash point: > 23 °C

Flammability (solid, gaseous): Not applicable.

Decomposition temperature: Not determined.

Auto-ignition temperature: Not determined.

Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Explosion limits:

Lower:	1.2 Vol %
Upper:	15.0 Vol %

Vapour pressure at 20 °C: 10.7 hPa

Density at 20 °C:	1 g/cm ³
Vapour density	Not determined.
Evaporation rate	Not determined.

Solubility in / Miscibility with water: Reacts with water.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

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9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No decomposition if used according to specifications.

10.2 Chemical stability No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Reacts with water.

Reacts with alkali, amines and strong acids.

Reacts with oxidising agents.

Fumes can combine with air to form an explosive mixture.

10.4 Conditions to avoid Protect from heat and direct sunlight.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Formation of toxic gases is possible during heating or in case of fire.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if inhaled.

LD/LC50 values relevant for classification:

123-86-4 n-butyl acetate

Oral	LD50	10760 mg/kg (rat)
Dermal	LD50	10760 mg/kg (rat)
		>14000 mg/kg (rabbit)
Inhalative	LC50/4 h	23.4 mg/l (rat)

28182-81-2 hexamethylene diisocyanate homopolymer

Oral	LD50	> 5000 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (rat)
Inhalative	ATE	1.5 mg/l (-) (dust/ mist)

108-65-6 2-methoxy-1-methylethyl acetate

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
Inhalative	LC50/6 h	4345 mg/l (rat)

4083-64-1 tosyl isocyanate

Oral	LD50	2330 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation. May cause drowsiness or dizziness.

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

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Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

123-86-4 n-butyl acetate

EC50/48 h	44 mg/l (daphnia)
EC50/72 h	675 mg/l (algae)
LC50/96 h	18 mg/l (Pimephales promelas)
TT/16 h	115 mg/l (Pseudomonas putida)

28182-81-2 hexamethylene diisocyanate homopolymer

EC50/3 h	3828 mg/l (microorganisms)
EC50/48 h	>100 mg/l (Daphnia magna)
EC50/72 h	>1000 mg/l (Scenedesmus subspicatus)
LC50/96 h	>100 mg/l (fish)

108-65-6 2-methoxy-1-methylethyl acetate

EC20/30 min	>1000 mg/l (microorganisms)
EC50	>100 mg/l (Pseudokirchnerella subcapitata)
	>100 mg/l (Pimephales promelas)
	>100 mg/l (Daphnia magna)
EC50/48 h	>500 mg/l (Daphnia magna)
EC50/72 h	>1000 mg/l (Pseudokirchnerella subcapitata)
LC50/96 h	>100 mg/l (fish)

4083-64-1 tosyl isocyanate

EC50/48 h	>100 mg/l (Daphnia magna)
EC50/72 h	30 mg/l (Pseudokirchnerella subcapitata)
LC50/48 h	>45 mg/l (fish)

12.2 Persistence and degradability

123-86-4 n-butyl acetate

Biodegradation	83 % (readily biodegradable) (OECD 301 D, 28 d, aerobic)
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28182-81-2 hexamethylene diisocyanate homopolymer

Biodegradation	1 % (not readily biodegradable) (OECD 301 D, 28 d, aerobic)
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108-65-6 2-methoxy-1-methylethyl acetate

Biodegradation	100 % (readily biodegradable) (OECD 302 B, 8 d, aerobic)
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4083-64-1 tosyl isocyanate

Biodegradation	86 % (readily biodegradable) (OECD 301 D, 28 d, aerobic)
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12.3 Bioaccumulative potential

123-86-4 n-butyl acetate

BCF	15.3 (-)
log Pow	2.3 (-)

28182-81-2 hexamethylene diisocyanate homopolymer

BCF	3.2 (-)
log Pow	9.81 (-)

108-65-6 2-methoxy-1-methylethyl acetate

log Pow	0.56 (-)
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12.4 Mobility in soil	
123-86-4 n-butyl acetate	
log K _{oc}	1.27 (-)
28182-81-2 hexamethylene diisocyanate homopolymer	
log K _{oc}	7.8 (-)
108-65-6 2-methoxy-1-methylethyl acetate	
K _{oc}	1.7 (-)

Additional ecological information:

General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.


European waste catalogue

08 01 11* | waste paint and varnish containing organic solvents or other dangerous substances

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN-Number ADR, IMDG, IATA	UN1263
14.2 UN proper shipping name ADR IMDG, IATA	1263 PAINT RELATED MATERIAL PAINT RELATED MATERIAL
14.3 Transport hazard class(es) ADR, IMDG, IATA	
	
Class	3
Label	3
14.4 Packing group ADR, IMDG, IATA	III
14.5 Environmental hazards: Marine pollutant (IMDG):	No
14.6 Special precautions for user Danger code (Kemler): EMS Number:	Warning: Flammable liquids. 30 F-E,S-E
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.

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Transport/Additional information:	
ADR	
Limited quantities (LQ)	5L
Transport category	3
Tunnel restriction code	D/E
IMDG	
Limited quantities (LQ)	5L
UN "Model Regulation":	UN1263, PAINT RELATED MATERIAL, 3, III

SECTION 15: Regulatory information

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

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

Seveso category P5c FLAMMABLE LIQUIDS

Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t

Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t

National regulations:

Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Resp. Sens. 1: Sensitisation - Respiratory. Hazard category 1

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Skin Sens. 1: Sensitisation - Skin. Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Sources European Chemicals Agency, <http://echa.europa.eu/>
