

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 1 of 11

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

1.1. Product identifier

MultiEx 3D-H2 D

Further trade names

Old name: MultiEx 3D-E14 HPA2

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

Use of the substance/mixture

Electronics cleaner for spray and immersion plants

1.3. Details of the supplier of the safety data sheet

Company name:	kolb Cleaning Technology GmbH	
Street:	Karl-Arnold-Str. 12	
Place:	D-47877 Willich	
Telephone:	+49-2154-947938	Telefax: +49-2154-947947
e-mail:	info@kolb-ct.com	
Contact person:	Christian Linker	Telephone: +49-2324-97980
e-mail:	christian.linker@kolb-ct.com	
Internet:	www.kolb-ct.com	
Responsible Department:	Labor/ QS	

1.4. Emergency telephone number:

+49/ (0) 23 24/ 979817 (EU)
+61 4 19 809 805 (Australia)
+1 970 443 9233 (USA)
Schweiz: 145

Further Information

Australia:	USA:
kolb Cleaning Technology AP PTY LTD	kolb USA LLC
6/150 Canterbury Road	410 Sunset, Unit C
NSW 2200 Bankstown	80501 Longmont – CO
Phone: +61 2 97900273	Phone 001- 970-532-5100
Mobile +61 4 19 809 805	Mobile: 001- 970-443-9233

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Corr. 1; H314
Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

Monoisopropanolamin

Signal word: Warning

Pictograms:



Hazard statements

H315 Causes skin irritation.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 2 of 11

H317 May cause an allergic skin reaction.

Precautionary statements

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

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.

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.

P312 Call a POISON CENTER/doctor if you feel unwell.

P405 Store locked up.

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

Special labelling of certain mixtures

EUH208 Contains orange terpene. May produce an allergic reaction.

Additional advice on labelling

UFI: 9NG0-90DK-N002-7N7F

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Cleaner on the basis of (according to EC Detergents Regulation 648/2004): glycols, alcohols, alkalis, phosphonic acid derivatives.



Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 3 of 11

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
34590-94-8	Dipropylene glycol monomethyl ether, Isomerengem			5 - < 15 %
	252-104-2		01-2119450011-60	
111-76-2	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve			5 - 10 %
	203-905-0	603-014-00-0		
	Acute Tox. 3, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2; H331 H302 H315 H319			
78-96-6	Monoisopropanolamin			5 - 10 %
	201-162-7		01-2119475331-43	
	Acute Tox. 4, Skin Corr. 1, Eye Dam. 1; H312 H314 H318			
67-63-0	Isopropylalkohol, 2-Propanol			1 - 5 %
	200-661-7		01-2119457558-25	
	Flam. Liq. 2, Eye Irrit. 2A, STOT SE 3; H225 H319 H336			
37971-36-1	Phosphonobutantricarbonsäure			1 - < 5 %
	253-733-5		01-2119436643-39	
	Eye Irrit. 2; H319			
111-42-2	2,2'-iminodiethanol; diethanolamin			1 - < 5 %
	203-868-0	603-071-00-1		
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, STOT RE 2; H302 H315 H318 H373			
8028-48-6	orange terpene			< 1 %
	232-433-8		01-2119493353-35	
	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H317 H304 H400 H410			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
34590-94-8	252-104-2	Dipropylene glycol monomethyl ether, Isomerengem	5 - < 15 %
		dermal: LD50 = 19020 mg/kg; oral: LD50 = 5130 mg/kg	
111-76-2	203-905-0	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve	5 - 10 %
		inhalation: ATE 3 mg/l (vapours); dermal: LD50 = 435 mg/kg; oral: ATE 1200 mg/kg	
78-96-6	201-162-7	Monoisopropanolamin	5 - 10 %
		dermal: ATE = 1100 mg/kg	
37971-36-1	253-733-5	Phosphonobutantricarbonsäure	1 - < 5 %
		dermal: LD50 = 4000 mg/kg; oral: LD50 = 6500 mg/kg Eye Irrit. 2; H319: >= - 100	
111-42-2	203-868-0	2,2'-iminodiethanol; diethanolamin	1 - < 5 %
		dermal: LD50 = 8328 mg/kg; oral: LD50 = 676 mg/kg	
8028-48-6	232-433-8	orange terpene	< 1 %
		dermal: LD50 = 5000 mg/kg; oral: LD50 = 5000 mg/kg	

SECTION 4: First aid measures

4.1. Description of first aid measures

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 4 of 11

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

Rinse mouth immediately and drink plenty of water.

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

No information available.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture

Non-flammable. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

No special measures are necessary.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 5 of 11

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Hints on joint storage

No special measures are necessary.

7.3. Specific end use(s)

Electronics cleaner for spray and immersion plants

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
34590-94-8	(2-Methoxymethylethoxy)-I-propanol	50	308		TWA (8 h)	
111-76-2	2-Butoxyethanol (EGBE)	20	98		TWA (8 h)	
		50	246		STEL (15 min)	
111-42-2	Diethanolamine (Inhalable Fraction and Vapour)	0.2	1		TWA (8 h)	
67-63-0	Isopropyl alcohol	200	-		TWA (8 h)	
		400	-		STEL (15 min)	
102-71-6	Triethanolamine	-	5		TWA (8 h)	

Biological limit values

CAS No	Substance	Parameter	Value	Test material	Sampling time
111-76-2	2-Butoxyethanol	BAA	200 mg/g	Creatinine	End of shift
67-63-0	2-Propanol	Acetone	40 mg/L	Urine	End of shift at end of workweek

DNEL/DMEL values

CAS No	Substance	DNEL type	Exposure route	Effect	Value
102-71-6	2,2',2''-Nitrilotriethanol				
		Worker DNEL, long-term	dermal	systemic	6,3 mg/kg bw/day
		Worker DNEL, long-term	inhalation	systemic	5 mg/m ³
		Worker DNEL, long-term	inhalation	local	5 mg/m ³
		Consumer DNEL, long-term	dermal	systemic	3,1 mg/kg bw/day
		Consumer DNEL, long-term	inhalation	systemic	1,25 mg/m ³
		Consumer DNEL, long-term	inhalation	local	1,25 mg/m ³
		Consumer DNEL, long-term	oral	systemic	13 mg/kg bw/day

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 6 of 11

PNEC values

CAS No	Substance	
Environmental compartment		Value
102-71-6	2,2',2"-Nitrilotriethanol	
Freshwater		0,32 mg/l
Marine water		0,032 mg/l
Freshwater sediment		1,7 mg/kg
Marine sediment		0,17 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,151 mg/kg
Air		5,12 mg/l

8.2. Exposure controls

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
 Colour: colourless
 Odour: Amines

Changes in the physical state

Melting point/freezing point: not determined
 Boiling point or initial boiling point and boiling range: not determined
 Flash point: [see also 9.2] °C

Flammability

Solid/liquid: not applicable
 not applicable

Lower explosion limits: not determined
 Upper explosion limits: not determined

Self-ignition temperature

Solid: not applicable
 Gas: not applicable

Decomposition temperature: not determined

pH-Value (at 20 °C): 10,8

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 7 of 11

Viscosity / dynamic:
(at 20 °C) 40 mPa·s

Water solubility: full soluble in water.

Solubility in other solvents
not determined

Partition coefficient n-octanol/water: not determined

Vapour pressure:
(at 20 °C) not determined

Density (at 20 °C): 0,965 g/cm³

Relative vapour density: not determined

9.2. Other information

Information with regard to physical hazard classes

Oxidizing properties
Not oxidising.

Other safety characteristics

Solid content: not determined
Evaporation rate: not determined

Further Information

not subject to the requirements of § 4 of the Hazardous Substances Ordinance (GefStoffV)

SECTION 10: Stability and reactivity

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

none

10.5. Incompatible materials

Keep away from: Acid

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 8 of 11

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
34590-94-8	Dipropylene glycol monomethyl ether, Isomerenngem				
	oral	LD50 5130 mg/kg	Ratte	AMA	
	dermal	LD50 19020 mg/kg	Ratte		
111-76-2	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve				
	oral	ATE 1200 mg/kg			
	dermal	LD50 435 mg/kg	Rabbit		
	inhalation vapour	ATE 3 mg/l			
78-96-6	Monoisopropanolamin				
	dermal	ATE 1100 mg/kg			
37971-36-1	Phosphonobutantricarbonsäure				
	oral	LD50 6500 mg/kg	Rat		
	dermal	LD50 4000 mg/kg	Rat		
111-42-2	2,2'-iminodiethanol; diethanolamine				
	oral	LD50 676 mg/kg	Rat		
	dermal	LD50 8328 mg/kg	Rabbit		
8028-48-6	orange terpene				
	oral	LD50 5000 mg/kg			
	dermal	LD50 5000 mg/kg			

Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes serious eye damage.

Sensitising effects

Contains orange terpene. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 9 of 11

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
34590-94-8	Dipropylene glycol monomethyl ether, Isomerengem					
	Acute fish toxicity	LC50 >10000 mg/l	96 h	Pimephales promelas (Amerikan. Elritze)		
	Acute algae toxicity	ErC50 >969 mg/l	96 h	Alge		
	Acute crustacea toxicity	EC50 1919 mg/l	48 h	Daphnia magna (Wasserfloh)		
	Crustacea toxicity	NOEC 12 mg/l		Daphnia magna (Wasserfloh)		
111-76-2	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve					
	Acute fish toxicity	LC50 1474 mg/l	96 h			
	Acute algae toxicity	ErC50 1232 mg/l	72 h			
	Acute crustacea toxicity	EC50 1800 mg/l	48 h			
37971-36-1	Phosphonobutantricarbonsäure					
	Acute fish toxicity	LC50 1042 mg/l	96 h			
	Acute algae toxicity	ErC50 611 mg/l	72 h			
	Acute crustacea toxicity	EC50 1071 mg/l	48 h			
111-42-2	2,2'-iminodiethanol; diethanolamine					
	Acute algae toxicity	ErC50 75 mg/l	72 h	Scenedesmus sp.		
	Acute crustacea toxicity	EC50 110 mg/l	48 h	Daphnia magna		
8028-48-6	orange terpene					
	Acute fish toxicity	LC50 5,65 mg/l	96 h			
	Acute algae toxicity	ErC50 75 mg/l	72 h			
	Acute crustacea toxicity	EC50 1,1 mg/l	48 h			

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
34590-94-8	Dipropylene glycol monomethyl ether, Isomerengem			
	OECD 301E	>70%	28	
	biologisch abbaubar			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
34590-94-8	Dipropylene glycol monomethyl ether, Isomerengem	-0,6
111-42-2	2,2'-iminodiethanol; diethanolamine	-1,43

12.4. Mobility in soil

The product has not been tested.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 10 of 11

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

070104 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals; other organic solvents, washing liquids and mother liquors; hazardous waste

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.2. UN proper shipping name: No dangerous good in sense of these transport regulations.

Inland waterways transport (ADN)

14.2. UN proper shipping name: No dangerous good in sense of these transport regulations.

Air transport (ICAO-TI/IATA-DGR)

14.2. UN proper shipping name: No dangerous good in sense of these transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

2010/75/EU (VOC): 20,7 % (199,755 g/l)

2004/42/EC (VOC): 20,7 % (199,755 g/l)

Additional information

To follow: 850/2004/EC, 79/117/EEC, 689/2008/EC

National regulatory information

Safety Data Sheet

according to Regulation (EC) No 1907/2006

MultiEx 3D-H2 D

Revision date: 09.01.2019

Product code: 600-200

Page 11 of 11

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

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 Harmonized 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

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Skin Corr. 1; H314	Calculation method
Eye Dam. 1; H318	Calculation method

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H336 May cause drowsiness or dizziness.

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

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

EUH208 Contains orange terpene. May produce an allergic reaction.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)