

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (2020/878)

MultiEx 3D-E14

Revision date: 08.01.2024

Product code: 090646-RM

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

1.1. Product identifier

MultiEx 3D-E14

UFI: HGT2-X03V-0009-VCYF

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 Irrit. 2; H315
Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Warning

Pictograms:



Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.

Precautionary statements

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

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P302+P352	protection.
P332+P313	IF ON SKIN: Wash with plenty of water.
P362+P364	If skin irritation occurs: Get medical advice/attention.
P305+P351+P338	Take off contaminated clothing and wash it before reuse.
	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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.

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	1 - < 5 %
	203-905-0	603-014-00-0
	Acute Tox. 3, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2; H331 H302 H315 H319	
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	1 - < 5 %
	200-661-7	603-117-00-0
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336	
141-43-5	2-aminoethanol; ethanolamine	1 - < 5 %
	205-483-3	603-030-00-8
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, STOT SE 3; H332 H312 H302 H314 H318 H335	

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	1 - < 5 %
		inhalation: ATE 3 mg/l (vapours); dermal: LD50 = 435 mg/kg; oral: ATE 1200 mg/kg	
67-63-0	200-661-7	propan-2-ol; isopropyl alcohol; isopropanol	1 - < 5 %
		dermal: LD50 = 12800 mg/kg; oral: LD50 = 5050 mg/kg	
141-43-5	205-483-3	2-aminoethanol; ethanolamine	1 - < 5 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = 2504 mg/kg; oral: LD50 = 1089 mg/kg STOT SE 3; H335: >= 5 - 100	

SECTION 4: First aid measures

4.1. Description of first aid measures

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After inhalation

Provide fresh air.

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. If skin irritation occurs: Get medical advice/attention.

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 1 glass 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.

5.3. Advice for firefighters

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

Additional information

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

For cleaning up

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.

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

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Advice on safe handling

No special measures are necessary.

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, drink, smoke, sniff. 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)	
141-43-5	2-Aminoethanol	1	2.5		TWA (8 h)	
		3	7.6		STEL (15 min)	
111-76-2	2-Butoxyethanol (EGBE)	20	98		TWA (8 h)	
		50	246		STEL (15 min)	
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

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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

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

Suitable eye protection: goggles.

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

Use of 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:	neutral	
Odour:	specific	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		100 °C
Flammability:		not determined

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Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	> 100 °C
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value (at 20 °C):	11
Water solubility: (at 20 °C)	full soluble in water.
Solubility in other solvents not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density (at 20 °C):	0,99 g/cm ³
Relative vapour density:	not determined

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive.

Oxidizing properties

The product is not: oxidising.

Other safety characteristics

Evaporation rate:

not determined

Solid content:

not determined

Viscosity / dynamic:

30,0 mPa·s

(at 20 °C)

Further Information

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

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

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

No information available.

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

ATEmix calculated

ATE (oral) 17539,8 mg/kg; ATE (dermal) 51764,7 mg/kg; ATE (inhalation vapour) 59,06 mg/l; ATE (inhalation dust/mist) 70,588 mg/l

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Acute toxicity

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
34590-94-8	Dipropylene glycol monomethyl ether, Isomerengem				
	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			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol				
	oral	LD50 5050 mg/kg	Rat		
	dermal	LD50 12800 mg/kg	Rabbit		
141-43-5	2-aminoethanol; ethanolamine				
	oral	LD50 1089 mg/kg	Rat		
	dermal	LD50 2504 mg/kg	Rabbit		
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			

11.2. Information on other hazards

Other information

There are no other hazards that require special attention.

Further information

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.



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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			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol					
	Acute fish toxicity	LC50 9640 mg/l	96 h			
	Acute crustacea toxicity	EC50 1400 mg/l	48 h			
141-43-5	2-aminoethanol; ethanolamine					
	Acute fish toxicity	LC50 349 mg/l	96 h			
	Acute algae toxicity	ErC50 2,8 mg/l	72 h			
	Acute crustacea toxicity	EC50 65 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

12.4. Mobility in soil

The product has not been tested.

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 product has not been tested.

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.

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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

070699 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics; wastes not otherwise specified

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

2010/75/EU (VOC): 24,835 % (245,867 g/l)

2004/42/EC (VOC): 24,835 % (245,867 g/l)

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

Additional information

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

National regulatory information

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

15.2. Chemical safety assessment

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

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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%

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

VOC: Volatile Organic Compounds

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

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

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.



CLEANING TECHNOLOGY
Made in Germany

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H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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