

3-D MICROEMULSION

1. Identification of the substance/preparation and of the company/undertaking

1.1 Identification of the substance or preparation:

Product name	: 3-D MICROEMULSION		
Synonyms	: HRC Advanced, 3DMe		
CAS No.	: N.A.	NFPA code	: N.D.
EC index No.	: N.A.	Molecular weight	: N.A.
EINECS No.	: N.A.	Formula	: N.A.
RTECS No.	: N.A.		

1.2 Use of the substance/preparation:

- Groundwater remediation

1.3 Company/undertaking identification:

Regenesys Ltd.
 The Tramshed Beehive Yard Walcot Street Bath
 BA1 5BB England, UK
 Tel: +44 (0)1225 731 446
 Fax: +44 (0)1225 731 445
 e-mail address: bathoffice@regenesys.com

1.4 Emergency telephone:

+32 14 58 45 45 (24h/24h)
 Information centre on dangerous goods (BIG)
 Technische Schoolstraat 43A, B-2440 Geel, Belgium

2. Hazards identification

DPD

Not classified as dangerous in compliance with Directive 67/548/EEC and/or Directive 1999/45/EC

CLP/GHS

Not classified as dangerous according to the Regulation(EC) No 1272/2008

3. Composition/information on ingredients

Hazardous ingredients	CAS No. EINECS/ELINCS No.	Conc. (%)	DSD classification	CLP classification
glycerol	56-81-5 200-289-5	3-7	- (2)	-

(1) For R-phrases in full: see heading 16
 (2) Substance with a Community workplace exposure limit
 (a) For CLP classification in full: see heading 16

NON-Hazardous ingredients	CAS No. EINECS/ELINCS No.	Conc. (%)
glycerol tripoly lactate	201167-72-8 -	40 - <70
oleic acid	112-80-1 204-007-1	40-70

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4. First aid measures

- 4.1 After inhalation:**
- Remove the victim into fresh air
 - Respiratory problems: consult a doctor/medical service
- 4.2 Skin contact:**
- Rinse with water
 - Take victim to a doctor if irritation persists
- 4.3 Eye contact:**
- Rinse with water
 - Take victim to an ophthalmologist if irritation persists
- 4.4 After ingestion:**
- Rinse mouth with water
 - Do not induce vomiting
 - Consult a doctor/medical service if you feel unwell

5. Fire-fighting measures

- 5.1 Suitable extinguishing media:**
- Water spray
 - Polyvalent foam
 - ABC powder
 - Carbon dioxide
- 5.2 Unsuitable extinguishing media:**
- No data available
- 5.3 Special exposure hazards:**
- Upon combustion CO and CO₂ are formed
- 5.4 Instructions:**
- Cool tanks/drums with water spray/remove them into safety
- 5.5 Special protective equipment for firefighters:**
- Heat/fire exposure: compressed air/oxygen apparatus
 - Protective clothing

6. Accidental release measures

- 6.1 Personal precautions:**
- See heading 8.2
- 6.2 Environmental precautions:**
- Prevent spreading in sewers
 - Contain released substance, pump into suitable containers
 - Plug the leak, cut off the supply
 - See heading 13
- 6.3 Methods for cleaning up:**
- Warning! Product may cause floors to be slippery
 - Scoop solid spill into closing containers
 - Carefully collect the spill/leftovers
 - Clean contaminated surfaces with an excess of water
 - Wash clothing and equipment after handling

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7. Handling and storage

7.1 Handling:

- Observe normal hygiene standards
- Do not discharge the waste into the drain
- Remove contaminated clothing immediately
- Clean contaminated clothing

7.2 Storage:

- Keep container tightly closed
- Store in a dry area
- Keep container in a well-ventilated place
- Meet the legal requirements
- Keep away from: heat sources, oxidizing agents, acids, bases, water/moisture

Storage temperature : N.D. °C
Quantity limits : N.D. kg
Storage life : N.D. days
Materials for packaging :

- suitable : steel with plastic inner lining, plastics, glass, aluminium, stainless steel
- to avoid : no data available

7.3 Specific use(s):

- See information supplied by the manufacturer for the identified use(s)

8. Exposure controls/Personal protection

8.1 Exposure limit values:

8.1.1 Occupational exposure:

GLYCEROL:

TLV-TWA	: 10 mist	mg/m ³		ppm
TLV-STEL	: -	mg/m ³		ppm
WEL-LTEL	: 10 mist	mg/m ³	-	ppm
WEL-STEL	: -	mg/m ³	-	ppm
TRGS 900	:	mg/m ³		ppm
MAK	: 50 E	mg/m ³		ppm
GWBNI-TGG 8 h	: 10 nevel	mg/m ³	(indicatief)	
GWKNI-TGG 15 min.	:	mg/m ³		
VME-8 h	: 10 aéros.	mg/m ³	-	ppm
VLE-15 min.	: -	mg/m ³	-	ppm
GWBB-8 h	: 10 nevel	mg/m ³	-	ppm
GWK-15 min.	: -	mg/m ³	-	ppm
Momentary value	:	mg/m ³		ppm
EC	:	mg/m ³		ppm
EC-STEL	:	mg/m ³		ppm

8.1.2 Sampling methods:

- Glycerin Mist (Particulates) NIOSH 600
- Glycerin Mist (Respirable Fraction) OSHA CSI
- Glycerin Mist (Total Dust) OSHA CSI

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8.2 Exposure controls:

8.2.1 Occupational exposure controls:

- Work under local exhaust/ventilation

Personal protective equipment:

a) Respiratory protection:

- Wear gas mask with filter type A if conc. in air > exposure limit

b) Hand protection:

- Gloves
Suitable materials: Rubber
- Breakthrough time: N.D.

c) Eye protection:

- No data available

d) Skin protection:

- Protective clothing
Suitable materials: Rubber

8.2.2 Environmental exposure controls: see headings 6.2, 6.3 and 13

9. Physical and chemical properties

9.1 General information:

Appearance (at 20°C)	: Paste
Odour	: Odourless
Colour	: Amber

9.2 Important health, safety and environmental information:

pH value (at %)	: N.D.	
Boiling point/boiling range	: N.D.	°C
Flash point/flammability	: > 93	°C
Explosion limits (explosive properties)	: N.D.	vol%
Oxidising properties	: N.D.	
Vapour pressure (at 20°C)	: N.D.	hPa
Vapour pressure (at 50°C)	: N.D.	hPa
Relative density (at 20°C)	: 0.9 - 1.1	
Water solubility	: Decomposes on exposure to water	
Soluble in	: N.D.	
Relative vapour density	: N.D.	
Viscosity (at °C)	: N.D.	Pa.s
Partition coefficient n-octanol/water	: N.D.	
Evaporation rate		
ratio to butyl acetate	: N.D.	
ratio to ether	: N.D.	

9.3 Other information:

Melting point/melting range	: N.D.	°C
Auto-ignition temperature	: N.D.	°C
Saturation concentration	: N.D.	g/m ³
Specific conductivity	: N.D.	pS/m

10. Stability and reactivity

10.1 Conditions to avoid:

- Unstable on exposure to moisture

10.2 Materials to avoid:

- Keep away from: heat sources, oxidizing agents, acids, bases, water/moisture

10.3 Hazardous decomposition products:

- Hydrolyzes on exposure to water (moisture)
- Upon combustion CO and CO₂ are formed

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11. Toxicological information

11.1 Acute toxicity:

OLEIC ACID:

LD50 oral rat	: > 19200	mg/kg
LD50 dermal rat	: N.D.	mg/kg
LD50 dermal rabbit	: N.D.	mg/kg
LC50 inhalation rat	: N.D.	mg/l/4 h
LC50 inhalation rat	: N.D.	ppm/4 h

GLYCEROL:

LD50 oral rat	: 12600	mg/kg
LD50 dermal rat	: N.D.	mg/kg
LD50 dermal rabbit	: > 10000	mg/kg
LC50 inhalation rat	: N.D.	mg/l/4 h
LC50 inhalation rat	: N.D.	ppm/4 h

11.2 Chronic toxicity:

OLEIC ACID:

Carcinogenicity (MAK) : 3A (MAK-Krebserzeugend Kategorie 3A)
Probably no significant contribution to human cancer risk is expected
Further data required for final classification

GLYCEROL:

Teratogenicity (MAK) : C (MAK-Schwangerschaftsgruppe C)
No teratogenic risk at exposure level lower than MAK-value

11.3 Routes of exposure: ingestion, inhalation, eyes and skin

11.4 Acute effects/symptoms:

- No data available

11.5 Chronic effects:

- No effects known

12. Ecological information

12.1 Ecotoxicity:

OLEIC ACID:

- LC50 (96 h) : 205 mg/l (PIMEPHALES PROMELAS)

GLYCEROL:

- LC50 (96 h) : 54000 mg/l (SALMO GAIRDNERI/ ONCORHYNCHUS MYKISS)
- EC50 (24 h) : >10000 mg/l (DAPHNIA MAGNA)

- **Effect on waste water purification** : no data available

12.2 Mobility:

- **Volatile organic compounds (VOC):** N.D. %

- No data available

For other physicochemical properties see heading 9

12.3 Persistence and degradability:

- **biodegradation BOD₅** : N.D. % ThOD

- **water** : - No data available

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- soil : T ½: N.D. days

12.4 Bioaccumulative potential:

- log P_{ow} : N.D.
- BCF : N.D.
- Hydrolysis in water

12.5 Results of PBT assessment:

- Not applicable, based on available data

12.6 Other adverse effects:

- WGK : 1 Mild water pollutant. (Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 17 May 1999)
- Effect on the ozone layer : Not dangerous for the ozone layer (1999/45/EC)
- Greenhouse effect : no data available

13. Disposal considerations

13.1 Provisions relating to waste:

- Waste material code (75/442/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 07 01 99 (wastes not otherwise specified)
- LWCA (the Netherlands): KGA category 03
- Remove waste in accordance with local and/or national regulations
- Hazardous waste according to Directive 2008/98/EC
- Depending on branch of industry and production process, also other EURAL codes may be applicable

13.2 Disposal methods:

- Remove to an authorized plant for the destruction, neutralization and elimination of hazardous waste
- Contains a component for which a prohibition exists against discharge into surface water

13.3 Packaging/Container:

- Waste material code packaging (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 15 01 10* (packaging containing residues of or contaminated by dangerous substances)

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14. Transport information

- 14.1 Classification of the substance in compliance with UN Recommendations
UN number :
CLASS : Not subject
SUB RISKS :
PACKING GROUP :
- 14.2 ADR (transport by road)
CLASS : Not subject
PACKING GROUP :
CLASSIFICATION CODE :
DANGER LABEL TANKS :
DANGER LABEL PACKAGES :
PROPER SHIPPING NAME :
- 14.3 RID (transport by rail)
CLASS : Not subject
PACKING GROUP :
CLASSIFICATION CODE :
DANGER LABEL TANKS :
DANGER LABEL PACKAGES :
PROPER SHIPPING NAME :
- 14.4 ADNR (transport by inland waterways)
CLASS : Not subject
PACKING GROUP :
CLASSIFICATION CODE :
DANGER LABEL TANKS :
DANGER LABEL PACKAGES :
- 14.5 IMDG (maritime transport)
CLASS : Not subject
SUB RISKS :
PACKING GROUP :
MFAG :
EMS :
MARINE POLLUTANT :
- 14.6 ICAO (air transport)
CLASS : Not subject
SUB RISKS :
PACKING GROUP :
PACKING INSTRUCTIONS PASSENGER AIRCRAFT :
PACKING INSTRUCTIONS CARGO AIRCRAFT :
- 14.7 Special precautions : Not restricted for any mode of international transport

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15. Regulatory information

15.1 DPD legislation:

Not classified as dangerous in compliance with Directive 67/548/EEC and/or Directive 1999/45/EC

NOT REQUIRED ACCORDING TO AVAILABLE INFORMATION

15.2 CLP/GHS Legislation:

Not classified as dangerous according to the Regulation(EC) No 1272/2008

15.3 National provisions:

The Netherlands:

Waterbezwaarlijkheid: 11

Germany:

WGK : 1 Mild water pollutant. (Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 17 May 1999)

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16. Other information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

N.A. = NOT APPLICABLE
N.D. = NOT DETERMINED
(*) = INTERNAL CLASSIFICATION (NFPA)

PBT-substances = persistent, bioaccumulative and toxic substances

DSD Dangerous Substance Directive
DPD Dangerous Preparation Directive
CLP/GHS Classification, labelling and packaging/Globally Harmonised System (EC)

Exposure limits:

TLV : Threshold Limit Value - ACGIH USA
WEL : Workplace Exposure Limits - United Kingdom
TRGS 900 : Technische Regel für Gefahrstoffe 900 (Arbeitsplatzgrenzwerte) - Germany
MAK : Maximale Arbeitsplatzkonzentrationen - Germany
GWBNL : Grenswaarde voor blootstelling - The Netherlands
GWKNL : Grenswaarde korte duur - The Netherlands
VME : Valeurs limites de Moyenne d'Exposition - France
VLE : Valeurs limites d'Exposition à court terme - France
GWBB : Grenswaarde beroepsmatige blootstelling - Belgium
GWK : Grenswaarde kortstondige blootstelling - Belgium
EC : Indicative occupational exposure limit values

I : Inhalable fraction = **T**: Total dust = **E**: Einatembarer Aerosolanteil
R : Respirable fraction = **A**: Alveolengängiger Aerosolanteil/Alveolar dust
C : Ceiling limit

a: aerosol		r: rook/Rauch	(fume)
d: damp	(vapour)	st: stof/Staub	(dust)
du: dust		ve: vezel	(fibre)
fa: Faser	(fibre)	va: vapour	
fi: fibre		om: oil mist	
fu: fume		on: olienevel/Ölnebel	(oil mist)
p: poussière	(dust)	part: particles	

Chronic toxicity:

K : List of the carcinogenic substances and processes - The Netherlands

Full text of any R phrases referred to under headings 2 and 3: N.A.

Full text of CLP classification referred to under heading 3: N.A.