

MITANOL C40

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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

engine coolant

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

Company name:	MITANOL GmbH	
Street:	Industriestraße 8	
Place:	D-49577 Ankum	
Telephone:	+49 (0)5462/7470-50	Telefax: +49 (0)5462/7470-33
e-mail:	info@mitanol.de	
Internet:	www.mitanol.de	
Responsible Department:	Produktsicherheit / Product Safety sicherheitsdatenblatt@mitanol.de	

1.4. Emergency telephone**number:** Gifftinformationszentrum Nord (Göttingen)

+49 (0)551/19240

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 4

Specific target organ toxicity - repeated exposure: STOT RE 2

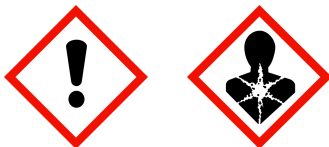
Hazard Statements:

Harmful if swallowed.

May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

Ethane-1,2-diol

Signal word: Warning**Pictograms:****Hazard statements**

H302 Harmful if swallowed.

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

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P270	Do not eat, drink or smoke when using this product.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P330	Rinse mouth.
P501	Dispose of contents / container in accordance with official regulations.

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2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Ethane-1,2-diol, Inhibitor

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
107-21-1	Ethane-1,2-diol			75 - <= 100 %
	203-473-3	603-027-00-1	01-2119456816-28	
	Acute Tox. 4, STOT RE 2; H302 H373			
17265-14-4	Disodium sebacate			> = 3 - < 5 %
	241-300-3		01-2120762063-61	
	Eye Irrit. 2; H319			
64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide			0,1 - < 0,2 %
	265-004-9		01-2119980062-42	
	Repr. 2, Acute Tox. 4, Skin Corr. 1B, Aquatic Chronic 2; H361d H302 H314 H411			

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		
107-21-1	203-473-3	Ethane-1,2-diol	75 - <= 100 %
	dermal: LD50 = > 3500 mg/kg; oral: LD50 = 7712 mg/kg		
17265-14-4	241-300-3	Disodium sebacate	> = 3 - < 5 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg		
64665-57-2	265-004-9	Sodium 4(or 5)-methyl-1H-benzotriazolide	0,1 - < 0,2 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 735 mg/kg		

Further Information

This mixture contains no substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off contaminated clothing and wash it before reuse.

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air. Call a doctor if you feel unwell.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap.

In case of skin irritation, consult a physician.

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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.

Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth thoroughly with water.

Let water be drunk in little sips (dilution effect).

Do NOT induce vomiting.

In all cases of doubt, or when symptoms persist, seek medical advice.

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

Use water spray jet to protect personnel and to cool endangered containers.

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

- alcohol resistant foam
- Extinguishing powder
- Water spray jet

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

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

In case of fire may be liberated:

- Carbon monoxide (CO)
- Carbon dioxide (CO₂).
- Pyrolysis products, toxic

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Dispose of waste according to applicable legislation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

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.

Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

For containment

Stop leak if safe to do so.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

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For cleaning up

- Collect in closed and suitable containers for disposal.
- Treat the recovered material as prescribed in the section on waste disposal.
- Clean contaminated articles and floor according to the environmental legislation.

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**

- Always close containers tightly after the removal of product.
- Do not put any product-impregnated cleaning rags into your trouser pockets.
- Clear spills immediately.
- Use only in well-ventilated areas.

Advice on protection against fire and explosion

- No special fire protection measures are necessary.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

- Keep container tightly closed and in a well-ventilated place.
- Keep only in the original container. Store in a cool dry place.

Hints on joint storage

- Do not store together with:
 - Materials capable of ignition under almost all normal temperature conditions
 - Explosives

7.3. Specific end use(s)

engine coolant

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
107-21-1	Ethane-1,2-diol, vapour	20	52		TWA (8 h)	WEL
		40	104		STEL (15 min)	WEL

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DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
107-21-1	Ethane-1,2-diol		
Consumer DNEL, long-term	dermal	systemic	53 mg/kg bw/day
Worker DNEL, long-term	inhalation	local	35 mg/m ³
Worker DNEL, long-term	dermal	systemic	106 mg/kg bw/day
Consumer DNEL, long-term	inhalation	local	7 mg/m ³
17265-14-4	Disodium sebacate		
Worker DNEL, long-term	inhalation	systemic	35,26 mg/m ³
Worker DNEL, long-term	dermal	systemic	10 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	8,7 mg/m ³
Consumer DNEL, long-term	dermal	systemic	5 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	5 mg/kg bw/day
64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide		
Worker DNEL, long-term	inhalation	systemic	21,2 mg/m ³
Worker DNEL, long-term	dermal	systemic	0,3 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	4,4 mg/m ³
Consumer DNEL, long-term	dermal	systemic	0,01 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,01 mg/kg bw/day
Consumer DNEL, acute	oral	systemic	0,54 mg/kg bw/day

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PNEC values

CAS No	Substance		Value
Environmental compartment			
107-21-1	Ethane-1,2-diol		
Freshwater			10 mg/l
Freshwater (intermittent releases)			10 mg/l
Marine water			1 mg/l
Freshwater sediment			37 mg/kg
Marine sediment			3,7 mg/kg
Micro-organisms in sewage treatment plants (STP)			199,5 mg/l
Soil			1,53 mg/kg
17265-14-4	Disodium sebacate		
Freshwater			0,018 mg/l
Freshwater (intermittent releases)			0,18 mg/l
Marine water			0,002 mg/l
Freshwater sediment			0,548 mg/kg
Marine sediment			0,055 mg/kg
Micro-organisms in sewage treatment plants (STP)			10 mg/l
Soil			0,099 mg/kg
64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide		
Freshwater			0,008 mg/l
Freshwater (intermittent releases)			0,086 mg/l
Marine water			0,02 mg/l
Freshwater sediment			0,117 mg/kg
Marine sediment			0,292 mg/kg
Micro-organisms in sewage treatment plants (STP)			39,4 mg/l
Soil			0,0187 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaust at critical locations.

Protective and hygiene measures

Take off contaminated clothing and wash it before reuse.

Wash hands and face before breaks and after work and take a shower if necessary.

When using do not eat, drink, smoke, sniff. Keep away from food, drink and animal feedingstuffs.

Eye/face protection

During filling, metering, mixing and sampling must be used:

Wear eye/face protection. DIN EN 166

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.

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Recommended glove articles: EN ISO 374
 Suitable material: NBR (Nitrile rubber)
 Thickness of the glove material: 0,4 mm
 Breakthrough times and swelling properties of the material must be taken into consideration. Breakthrough time: > 8h
 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. DIN EN 14605

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Combination filtering device Typ: A-P2 (EN 14387)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	pink
Odour:	characteristic
Odour threshold:	not determined

	Test method
pH-Value:	8,0 ASTM D 1287

Changes in the physical state

Melting point:	-18 °C DIN ISO 3016
Boiling point or initial boiling point and boiling range:	160 °C ASTM D 1120
Flash point:	> 124 °C DIN EN ISO 2719

Flammability

Solid/liquid:	not applicable
Gas:	not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Auto-ignition temperature:	420 °C DIN 51794

Self-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	not determined
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Oxidizing properties

The product is not: oxidising.

Vapour pressure: (at 20 °C)	0,2 hPa
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Density (at 20 °C):	1,122 g/cm ³ DIN 51757
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Water solubility:	easily soluble
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Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
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Viscosity / kinematic:
(at 20 °C) 20 - 30 mm²/s DIN 51562

Relative vapour density: not determined

Evaporation rate: not determined

9.2. Other information

Solid content: not determined

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

Avoid: Thermal decomposition

10.5. Incompatible materials

Materials to avoid:
- Oxidising agent

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

Harmful if swallowed.

ATEmix calculated

ATE (oral) 527,4 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
107-21-1	Ethane-1,2-diol				
	oral	LD50 7712 mg/kg	Rat	Study report (1968)	according to BASF-internal standards
	dermal	LD50 > 3500 mg/kg	Mouse	Fundamental and Applied Toxicology 27: 1	LD50 derived from developmental toxicity
17265-14-4	Disodium sebacate				
	oral	LD50 > 5000 mg/kg	Rat	Study report (1978)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1999)	OECD Guideline 402
64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide				
	oral	LD50 735 mg/kg	Rat	Study report (1985)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rabbit	Study report (1984)	OECD Guideline 402

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Irritation and corrosivity

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

Sensitising effects

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

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

May cause damage to organs through prolonged or repeated exposure. (Ethane-1,2-diol)

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].

11.2. Information on other hazards

Endocrine disrupting properties

No information available.

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
107-21-1	Ethane-1,2-diol					
	Acute fish toxicity	LC50 > 72860 mg/l	96 h	Pimephales promelas	Environ. Toxicology and Chemistry, Vol.	EPA 600/4-90/027. U.S. Environmental Pro
	Acute algae toxicity	ErC50 6500 - 13000 mg/l	96 h	Pseudokirchneriella subcapitata	Study report (1982)	other: EPA 600/9-78-018, 1978
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna	Study report (1998)	OECD Guideline 202
	Fish toxicity	NOEC 15380 mg/l	7 d	Pimephales promelas	Environ. Toxicology and Chemistry, Vol.	other: EPA 600/4-89/001. U.S. Environmen
	Algae toxicity	NOEC > 100 mg/l	8 d	Scenedesmus quadricauda	REACH Registration Dossier	OECD Guideline 201
	Crustacea toxicity	NOEC 7500 - 15000 mg/l	21 d	Daphnia magna	REACH Registration Dossier	other: ASTM
17265-14-4	Disodium sebacate					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Danio rerio	REACH Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 38,7 mg/l	72 h	Skeletonema costatum	REACH Registration Dossier	ISO 10253
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202
64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide					
	Acute fish toxicity	LC50 55 mg/l	96 h	Cyprinodon variegatus	Study report (2003)	other: The test procedure is based on te
	Acute algae toxicity	ErC50 75 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (1994)	OECD Guideline 201
	Acute crustacea toxicity	EC50 15,8 mg/l	48 h	other aquatic crustacea: Daphnia galeata	Environ Sci Pollut Res 19:1781-1790 (201	OECD Guideline 202
	Crustacea toxicity	NOEC 18,4 mg/l	21 d	Daphnia magna	Study report (1995)	other: "Daphnia Reproduction Test" of OE

12.2. Persistence and degradability

Elimination information: > 70 % DOC reduction (28 d) (OECD 301 A (new version)) Readily biodegradable.

12.3. Bioaccumulative potential
Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
107-21-1	Ethane-1,2-diol	-1,36
17265-14-4	Disodium sebacate	-4,9
64665-57-2	Sodium 4(or 5)-methyl-1H-benzotriazolide	ca. 1,083 - 5

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12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Endocrine disrupting properties

No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

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

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

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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

2010/75/EU (VOC): 94,81 % (1063,768 g/l)

2004/42/EC (VOC): 94,81 % (1063,768 g/l)

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

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.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,6,7,8,9,10,11,12,13,15,16.

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)

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EmS: Emergency Schedules
MFAG: Medical First Aid Guide
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 table at <http://abbrev.esdscom.eu>

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

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
STOT RE 2; H373	Calculation method

Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

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.)