

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Luff-Schoorl's solution for determination of sugar according to VDLUFA method book volume III, chapt

Revision date: 17.08.2022

Product code: 03140

Page 1 of 12

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

1.1. Product identifier

Luff-Schoorl's solution for determination of sugar according to VDLUFA method book volume III, chapt

UFI: KKP8-F02J-200Y-W28S

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

Use of the substance/mixture

Laboratory chemical

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	Fa. Bernd Kraft GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
e-mail:	info@berndkraft.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
e-mail:	produktsicherheit@berndkraft.de	
Internet:	www.berndkraft.de	
Responsible Department:	Abteilung Produktsicherheit	

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

This product is a mixture. REACH Registration Number see section 3.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Eye Irrit. 2; H319

Aquatic Chronic 2; H411

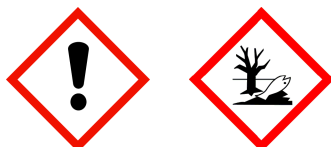
Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Warning

Pictograms:



Hazard statements

H319

Causes serious eye irritation.

H411

Toxic to aquatic life with long lasting effects.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 2 of 12

Precautionary statements

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
497-19-8	sodium carbonate			10 - < 15 %
	207-838-8	011-005-00-2	01-2119485498-19	
	Eye Irrit. 2; H319			
5949-29-1	Citric acid 1-hydrate			1 - < 5 %
	201-069-1		01-2119457026-42	
	Eye Irrit. 2, STOT SE 3; H319 H335			
7758-98-7	copper sulphate			1 - < 5 %
	231-847-6	029-004-00-0		
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H302 H315 H318 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	
497-19-8	207-838-8	sodium carbonate	10 - < 15 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = 2800 mg/kg	
5949-29-1	201-069-1	Citric acid 1-hydrate	1 - < 5 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = 5400 mg/kg	
7758-98-7	231-847-6	copper sulphate	1 - < 5 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = 482 mg/kg M acute; H400: M=10 M chron.; H410: M=10	

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 3 of 12

General information

No data available

After inhalation

Provide fresh air.

After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

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

Consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water.

Call a physician immediately.

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

Irritant

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Sulphur oxides

Metal oxide smoke, toxic

5.3. Advice for firefighters

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

Avoid contact with skin, eyes and clothes.

Additional information

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

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

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 4 of 12

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 containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

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

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

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

Do not breathe vapour/aerosol.

Read label before use.

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.

Further information on handling

Draw up and observe skin protection programme.

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

Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in a dry place.

Further information on storage conditions

Keep container tightly closed.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 5 of 12

DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
497-19-8	sodium carbonate		
Worker DNEL, long-term	inhalation	local	10 mg/m ³
Consumer DNEL, long-term	inhalation	local	10 mg/m ³
Consumer DNEL, acute	inhalation	local	10 mg/m ³

PNEC values

CAS No	Substance	
Environmental compartment	Value	
5949-29-1	Citric acid 1-hydrate	
Freshwater	0,44 mg/l	
Marine water	0,044 mg/l	
Freshwater sediment	34,6 mg/kg	
Marine sediment	3,46 mg/kg	
Micro-organisms in sewage treatment plants (STP)	1000 mg/l	
Soil	33,1 mg/kg	
7758-98-7	copper sulphate	
Freshwater	0,0078 mg/l	
Marine water	0,0052 mg/l	
Freshwater sediment	87 mg/kg	
Marine sediment	676 mg/kg	
Micro-organisms in sewage treatment plants (STP)	0,23 mg/l	
Soil	65 mg/kg	

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

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

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.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Trade name/designation KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 6 of 12

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet (>, <) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	blue	
Odour:	odourless	
Odour threshold:	not determined	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		not determined
Flammability		
Solid/liquid:		not determined
Gas:		not applicable
Lower explosion limits:		not applicable
Upper explosion limits:		not applicable
Flash point:		not applicable
Auto-ignition temperature:		not determined
Decomposition temperature:		No data available
pH-Value:		9,5
Viscosity / kinematic:		not determined
Water solubility:		completely miscible
Solubility in other solvents		
not determined		
Dissolution rate:		not determined
Partition coefficient n-octanol/water:		No data available
Dispersion stability:		not determined
Vapour pressure:		No data available
Vapour pressure:		not determined
Density:		1,15 g/cm ³
Relative density:		not determined
Bulk density:		No data available
Relative vapour density:		not determined
Particle characteristics:		not determined

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 7 of 12

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

No data available

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

not determined

Gas:

not applicable

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:

not determined

Solvent separation test:

not determined

Solvent content:

not determined

Solid content:

not determined

Sublimation point:

not determined

Softening point:

not determined

Pour point:

not determined

not determined:

Viscosity / dynamic:

not determined

Flow time:

not determined

Further Information

not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

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

Toxicokinetics, metabolism and distribution

No data available

Acute toxicity

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

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 8 of 12

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
497-19-8	sodium carbonate				
	oral	LD50 2800 mg/kg	Rat	Study report (1978)	Groups of 5 male and 5 female rats were
	dermal	LD50 > 2000 mg/kg	Rabbit	Study report (1978)	other: EPA 16 CFR 1500.40
5949-29-1	Citric acid 1-hydrate				
	oral	LD50 5400 mg/kg	Mouse	Study report (1981)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2006)	OECD Guideline 402
7758-98-7	copper sulphate				
	oral	LD50 482 mg/kg	Rat	Study report (1994)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1993)	OECD Guideline 402

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: 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

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

Aspiration hazard

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

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information

No data available

Further information

Irritant

SECTION 12: Ecological information

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 9 of 12

12.1. Toxicity

There are no data available on the mixture itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
497-19-8	sodium carbonate					
	Acute fish toxicity	LC50 300 mg/l	96 h	Lepomis macrochirus	Proc. 13th Ind. Waste Conf., Purdue Univ	Method: Recommendations of the Committee
	Acute crustacea toxicity	EC50 200 - 227 mg/l	48 h	Ceriodaphnia sp.	Ecotoxicol. Environ. Saf., 44, 196-206 (Method: method developed by NSW Environm
5949-29-1	Citric acid 1-hydrate					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Pimephales promelas	Photogr. Sci. Eng. 16(5):370-377 (1972)	
	Acute crustacea toxicity	EC50 > 50 mg/l	48 h	other aquatic crustacea: Dreissena polymorpha	Environ. Toxicol. C hem. 16(9): 1930-1934 (other: ASTM
	Algae toxicity	NOEC 425 mg/l	8 d	Scenedesmus quadricauda	Water Research 14: 231-241 (1980)	other: Bringmann and Kuhn
7758-98-7	copper sulphate					
	Acute fish toxicity	LC50 0,193 mg/l	96 h	Pimephales promelas	Study report (1996)	measurements were conducted by standard
	Acute algae toxicity	ErC50 0,152 mg/l	72 h	Pseudokirchneriella subcapitata	Publication (2005)	OECD Guideline 201
	Acute crustacea toxicity	EC50 0,007 mg/l	48 h	Daphnia magna	Study report (1978)	- Test were conducted on Daphnia magna t
	Fish toxicity	NOEC 0,123 mg/l	12 d	Atherinops affinis	Mar. Environ. Res. 31: 17-35 (1991)	Three tests are reported, designed to de
	Algae toxicity	NOEC 0,0102 mg/l	19 d	other aquatic plant: giant kelp Macrocystis pyrife	Mar. Ecol. Prog. Ser. 68: 147 - 156 (199	Tests were conducted to determine the ef
	Crustacea toxicity	NOEC 0,033 mg/l	14 d	Penaeus mergulensis and Penaeus monodon	Bull. Environ. Contain. Toxicol. (1995)	The effects of dissolved copper on the g

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
5949-29-1	Citric acid 1-hydrate	-1,55

Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 10 of 12

BCF

CAS No	Chemical name	BCF	Species	Source
5949-29-1	Citric acid 1-hydrate	3,2		In: (2009)
7758-98-7	copper sulphate	0,02 - 20	Crangon crangon	Symp. Biologica. Hun

12.4. Mobility in soil

There are no data available on the mixture itself.

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.

There are no data available on the mixture itself.

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.

There are no data available on the mixture itself.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations. Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper sulphate)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	-

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper sulphate)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III

Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 11 of 12

Hazard label: 9
 Classification code: M6
 Special Provisions: 274 335 375 601
 Limited quantity: 5 L
 Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 (copper sulphate)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
 Hazard label: 9
 Special Provisions: 274, 335, 969
 Limited quantity: 5 L
 Excepted quantity: E1
 EmS: F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 (copper sulphate)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
 Hazard label: 9
 Special Provisions: A97 A158 A197
 Limited quantity Passenger: 30 kg G
 Passenger LQ: Y964
 Excepted quantity: E1
 IATA-packing instructions - Passenger: 964
 IATA-max. quantity - Passenger: 450 L
 IATA-packing instructions - Cargo: 964
 IATA-max. quantity - Cargo: 450 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes
 Danger releasing substance: copper sulphate

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 75
 Information according to 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

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): 3 - highly hazardous to water

Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Luff-Schoorl's solution for determination of sugar according to VDLUFA method book
volume III, chapt**

Revision date: 17.08.2022

Product code: 03140

Page 12 of 12

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,9.

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
Eye Irrit. 2; H319	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.

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 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.)