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

1.1. Product identifier

Product form : Mixture

Product name : FORMULA 4000

Product code : 707

Type of product : Detergent

Product group : Mixture

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

1.2.1. Relevant identified uses

Main use category : Industrial use,Professional use

Industrial/Professional use spec : Industrial
For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Clover Chemicals Ltd
Clover House
Macclesfield Road
SK23 7DQ Whaley Bridge - United Kingdom
T 01663 733114 - F 01663 733115
info@cloverchemicals.com - www.cloverchemicals.com

1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Irrit. 2 H315

Eye Irrit. 2 H319

Aquatic Chronic 3 H412

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS07

CLP Signal word : Warning

Hazard statements (CLP) : H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) : P102 - Keep out of reach of children.
P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves, eye protection.
P273 - Avoid release to the environment.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
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.

EUH-statements : EUH208 - Contains Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1). May produce an allergic reaction.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Naphtha (petroleum), hydrotreated heavy HYDROCARBONS, C9-C11, N-ALKANES,ISOALKANES CYCLICS, <2%AROMATICS	(CAS-no) 64742-48-9 (Einecs nr) 919-857-5 (REACH-no) 01-2119463258-33	10 – 30	Flam. Liq. 3, H226 STOT SE 3, H336 Asp. Tox. 1, H304
Odourless Kerosine	(CAS-no) 64742-47-8 (Einecs nr) 265-149-8 (EG annex nr) 649-422-00-2	5 – 10	Asp. Tox. 1, H304
Bis (2-hydroxyethyl) oleyl amine	(CAS-no) 25307-17-9 (Einecs nr) 246-807-3 (REACH-no) 01-2119510876-35	0.1 – 1	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
Dicocodimethylammonium chloride	(CAS-no) 61789-77-3 (Einecs nr) 263-087-6 (REACH-no) 01-2119486994-16	0.1 – 1	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	(CAS-no) 55965-84-9 (Einecs nr) 611-341-5 (EG annex nr) 613-167-00-5 (REACH-no) 01-2120764691-48	< 0.1	Acute Tox. 2 (Inhalation), H330 Acute Tox. 2 (Dermal), H310 Acute Tox. 3 (Oral), H301 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)

Specific concentration limits:		
Name	**Product identifier**	**Specific concentration limits**
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	(CAS-no) 55965-84-9 (Einecs nr) 611-341-5 (EG annex nr) 613-167-00-5 (REACH-no) 01-2120764691-48	(0.0015 ≤C ≤ 100) Skin Sens. 1A, H317 (0.06 ≤C < 0.6) Eye Irrit. 2, H319 (0.06 ≤C < 0.6) Skin Irrit. 2, H315 (0.6 ≤C ≤ 100) Eye Dam. 1, H318 (0.6 ≤C ≤ 100) Skin Corr. 1C, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation : Allow affected person to breathe fresh air. Allow the victim to rest.

Skin contact : Wash with plenty of water/…. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Acute effects inhalation : Inhalation may cause irritation, cough, shortness of breath.

Acute effects skin : Slight irritation.

Acute effects eyes : May cause eye irritation. Redness.

Acute effects oral route : May cause irritation to the digestive tract.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon dioxide. Carbon monoxide.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

Hygiene measures : Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.

Packaging materials : polyethylene. stainless steel.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure that there is a suitable ventilation system.

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:
Wear protective gloves.

Eye protection:
Chemical goggles or safety glasses

Respiratory protection:
Not required

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Physical state/form	: Liquid.
Colour	: light brown.
Odour	: Characteristic.
Odour threshold	: No data available
pH	: 8 – 9
Relative evaporation rate (butylacetate=1)	: No data available
Melting point/range	: 0 °C
Freezing point	: No data available
Boiling point/Boiling range	: 100 °C
Flash point	: 68 °C
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.992
Solubility	: Not miscible. Water.
Log Pow	: No data available
Viscosity, kinematic	: 60000 mm²/s at 20 °C
Viscosity, dynamic	: 50000 – 70000 cP at 20 °C
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Naphtha (petroleum), hydrotreated heavy HYDROCARBONS, C9-C11, N-ALKANES,ISOALKANES CYCLICS, <2%AROMATICS (64742-48-9)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 3000 mg/kg

Odourless Kerosine (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5.28 mg/l/4h

Bis (2-hydroxyethyl) oleyl amine (25307-17-9)	
LD50 oral rat	> 300 – 2000 ml/kg
ATE CLP (oral)	500 mg/kg bodyweight

Dicocodimethylammonium chloride (61789-77-3)	
ATE CLP (oral)	500 mg/kg bodyweight

Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1) (55965-84-9)	
LD50 oral rat	64 mg/kg
LD50 dermal rat	87.12 mg/kg
LD50 dermal rabbit	78 mg/kg
LC50 inhalation rat (mg/l)	0.33 mg/l/4h
LC50 inhalation rat (Dust/Mist - mg/l/4h)	0.33 mg/l/4h
ATE CLP (oral)	64 mg/kg bodyweight
ATE CLP (dermal)	78 mg/kg bodyweight
ATE CLP (gases)	700 ppmv/4h
ATE CLP (vapours)	0.33 mg/l/4h
ATE CLP (dust,mist)	0.33 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.
pH: 8 – 9

Serious eye damage/irritation : Causes serious eye irritation.
pH: 8 – 9

Respiratory or skin sensitisation : Not classified

Additional information : Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Reproductive toxicity : Not classified

Additional information : Based on available data, the classification criteria are not met

STOT-single exposure : Not classified

Additional information : Based on available data, the classification criteria are not met

STOT-repeated exposure : Not classified

Additional information : Based on available data, the classification criteria are not met

Aspiration hazard : Not classified

Additional information : Based on available data, the classification criteria are not met

FORMULA 4000	
Viscosity, kinematic	60000 mm²/s at 20 °C

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

Odourless Kerosine (64742-47-8)	
LC50 fish 1	> 100 mg/l
ErC50 (algae)	> 100 mg/l
NOEC (acute)	0.1 – 1 mg/l
NOEC (chronic)	1 – 10 mg/l

Bis (2-hydroxyethyl) oleyl amine (25307-17-9)	
LC50 fish 1	> 0.1 – 1 mg/l
EC50 Daphnia 1	> 0.01 – 0.1 mg/l
EC50 72h algae (1)	> 0.01 – 0.1 mg/l

Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1) (55965-84-9)	
LC50 fish 1	0.19 mg/l Rainbow trout
LC50 fish 2	zonnebaars
EC50 Daphnia 1	0.16 mg/l
EC50 other aquatic organisms 1	0.126 mg/l waterflea
EC50 other aquatic organisms 2	0.003 mg/l
EC50 72h algae (1)	0.027 mg/l
ErC50 (algae)	0.003 mg/l Skeletonema costatum
ErC50 (other aquatic plants)	0.018 mg/l selenastrum capricornutum
NOEC chronic fish	0.05 mg/l
NOEC chronic crustacea	0.1 mg/l
NOEC chronic algae	0.0014 mg/l

12.2. Persistence and degradability

FORMULA 4000	
Persistence and degradability	Not applicable.

Naphtha (petroleum), hydrotreated heavy HYDROCARBONS, C9-C11, N-ALKANES,ISOALKANES CYCLICS, <2%AROMATICS (64742-48-9)	
Persistence and degradability	Not established.

Bis (2-hydroxyethyl) oleyl amine (25307-17-9)	
Persistence and degradability	May cause long-term adverse effects in the environment.

Dicocodimethylammonium chloride (61789-77-3)	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

FORMULA 4000	
Bioaccumulative potential	No bioaccumulation.

Naphtha (petroleum), hydrotreated heavy HYDROCARBONS, C9-C11, N-ALKANES,ISOALKANES CYCLICS, <2%AROMATICS (64742-48-9)	
Bioaccumulative potential	Not established.

Odourless Kerosine (64742-47-8)	
Log Pow	6 – 8.2

Bis (2-hydroxyethyl) oleyl amine (25307-17-9)	
Log Pow	3.4
Bioaccumulative potential	Bioaccumulation unlikely. Not established.

Dicocodimethylammonium chloride (61789-77-3)	
Bioaccumulative potential	Not established.

Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1) (55965-84-9)	
Log Pow	0.4

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

FORMULA 4000
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

Component	
Bis (2-hydroxyethyl) oleyl amine (25307-17-9)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Waste / unused products : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA
14.1. UN number		
Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name		
Not regulated	Not regulated	Not regulated

14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.
Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Allergenic fragrances > 0,01%:
LINALOOL

Detergent Regulation (648/2004/EC): Labelling of contents:	
Component	**%**
METHYLCHLOROISOTHIAZOLINONE (AND) METHYLISOTHIAZOLINONE	
perfumes	
LINALOOL	

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 2 (Dermal)	Acute toxicity (dermal), Category 2
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1

Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1A	Skin sensitisation, category 1A
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H310	Fatal 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.
H330	Fatal if inhaled.
H336	May cause drowsiness or dizziness.
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.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1). May produce an allergic reaction.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Skin Irrit. 2	H315	Expert judgment
Eye Irrit. 2	H319	Expert judgment
Aquatic Chronic 3	H412	Calculation method

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.