Material Safety Data Sheet
according to Regulation (EC) No. 1907/2006

Flexicote 15-8-13 9M

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

1.1 Product identifier

Trade name : Flexicote 15-8-13 9M

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

Use of the Substance/Mixture : Fertiliser

1.3 Details of the supplier of the safety data sheet

Company : COMPO EXPERT GmbH
Krögerweg 10
D-48155 Münster

Telephone : +49 (0) 251 29 79 81 – 000

Telefax : +49 (0) 251 29 79 81 - 111

E-mail address of person responsible for the SDS : info@compo-expert.com

1.4 Emergency telephone number

GBK GmbH - Global Regulatory Compliance - 24h
Telephone: +49 (0) 6132 - 84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard statements	:	H412	Harmful to aquatic life with long lasting effects.
Precautionary statements	:	**Disposal:** P501	Dispose of contents/ container to an approved waste disposal plant.

Further information	:	German "Hazardous Substances" legislation (Gefahrstoffverordnung) appendix I, No. 5 (Ammonium Nitrate group B II)

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Fertiliser
NPK - fertilizer containing: Ammonium Nitrate, ammonium salts, phosphates, potassium sulphate, magnesium sulphate, salts of calcium, potassium and possibly magnesium and trace elements.

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
ammonium nitrate	6484-52-2 229-347-8 01-2119490981-27-XXXX	Ox. Sol. 3; H272 Eye Irrit. 2; H319	>= 10 - <= 45
Borates, tetra sodium salts, pentahydrate	12179-04-3 215-540-4 01-2119490790-32-XXXX	Repr. 1B; H360FD Eye Irrit. 2; H319	<= 0,2
copper sulphate	7758-98-7 231-847-6 01-2119520566-40-XXXX	Eye Irrit. 2; H319 Skin Irrit. 2; H315 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Acute Tox. 4; H302	>= 0,1 - <= 0,2

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled	:	Move to fresh air. Obtain medical attention. If unconscious, place in recovery position and seek medical advice. In case of lung irritation, first treatment with dexametason aerosol (spray).
In case of skin contact	:	Wash off with soap and water.
In case of eye contact	:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	Ingestion may provoke the following symptoms: Methaemoglobinemia
Risks	:	Later control for pneumonia and lung oedema.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically. There is no specific antidote available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water
Unsuitable extinguishing media	:	Foam Dry chemical Carbon dioxide (CO2) Sand

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Thermal decomposition can lead to release of irritating gases and vapours. Nitrogen oxides (NOx) ammonia

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Keep away from children.

6.2 Environmental precautions

Environmental precautions	:	Do not empty into drains. Retain and dispose of contaminated wash water.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Use mechanical handling equipment.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Keep away from direct sunlight. Keep away from heat. Protect from contamination. Protect from moisture.
Advice on protection against fire and explosion	:	The product is not flammable. Keep away from heat and sources of ignition. Keep away from combustible materials.
Hygiene measures	:	Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Keep away from heat. Keep away from sources of ignition - No smoking. Keep away from combustible material. Protect from contamination. When stored loose do not mix with other fertilizers. Protect from moisture.
Advice on common storage	:	Keep away from strong acids. Keep away from strong bases. Keep away from combustible materials.
Storage class (TRGS 510)	:	5.1C, Ammonium nitrate and ammonium nitrate containing

preparations

Dampness : Keep in a dry place.

7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Borates, tetra sodium salts, pentahydrate	12179-04-3		3 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	8;(II)			
Further information	Commission for dangerous substances, The threshold value is based on the element content of the corresponding metal., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW	0,5 mg/m3 (Borate)	DE TRGS 900
Peak-limit: excursion factor (category)	2;(I)			
Further information	Commission for dangerous substances, The threshold value is based on the element content of the corresponding metal., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
			1 mg/m3	ACGIHTLV
		TWA	1 mg/m3	GB EH40
copper sulphate	7758-98-7		1 mg/m3 (as Copper (Cu))	MAK (DE)

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
ammonium nitrate	Workers	Inhalation	Long-term systemic effects	36 mg/m3
	Workers	Skin contact	Long-term systemic	5,12 mg/kg

			effects	bw/day
	Consumers	Ingestion	Long-term systemic effects	2,56 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	8,9 mg/m3
	Consumers	Skin contact, Ingestion	Long-term systemic effects	2,56 mg/kg bw/day
Borates, tetra sodium salts, pentahydrate	Workers	Inhalation	Long-term exposure	6,7 mg/m3
	Consumers	Inhalation	Long-term exposure	3,4 mg/m3
	Workers	Skin contact	Long-term exposure	316,4 mg/kg bw/day
	Consumers	Skin contact	Long-term exposure	159,5 mg/kg bw/day
	Consumers	Ingestion	Long-term exposure, Short-term exposure	0,79 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
ammonium nitrate	Sewage treatment plant	18 mg/l
Borates, tetra sodium salts, pentahydrate	Fresh water	2,9 mg/l
	Marine water	2,9 mg/l
	Soil	5,7 mg/kg
	Intermittent use/release	13,7 mg/l
	Sewage treatment plant	10 mg/l

8.2 Exposure controls

Personal protective equipment

Eye protection : In case of dust formation:

Safety glasses

Hand protection
Material : Gloves

Skin and body protection : No special protective equipment required.

Respiratory protection : Breathing apparatus only if aerosol or dust is formed.

Respirator with a particle filter (EN 143)

P1 filter

Environmental exposure controls

General advice : Do not empty into drains.
Retain and dispose of contaminated wash water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	solid
Colour	:	various
Odour	:	odourless
Odour Threshold	:	No data available
pH	:	ca. 5, Concentration: 100 g/l (20 °C)
Melting point/range	:	No data available
Boiling point/boiling range	:	Not applicable
Flash point	:	Not relevant
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	The product is not flammable.
Upper explosion limit	:	Not explosive

Lower explosion limit	:	Not explosive
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	Not applicable
Bulk density	:	ca. 1.150 kg/m³
Solubility(ies) Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	Not applicable
Decomposition temperature	:	ca. 130 °C To avoid thermal decomposition, do not overheat. The product is capable of self-sustaining progressive thermal decomposition.
Viscosity Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	Not considered an oxidizing substance

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed.
Decomposes on heating.

10.3 Possibility of hazardous reactions

Hazardous reactions : Evolution of ammonia under influence of alkalies.

10.4 Conditions to avoid

Conditions to avoid : Keep away from heat and sources of ignition.

10.5 Incompatible materials

Materials to avoid : Sulphur, chlorites, chloride, chlorates, Hypochlorites, acid or alkaline reacting substances, flammable oxidizable substances, nitrites, metallic salts, metallic powder, herbicide, chlorinated hydrocarbons, organic compounds.

10.6 Hazardous decomposition products

Hazardous decomposition products : Nitrogen oxides (NOx)
ammonia

SECTION 11: Toxicological information

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

Acute toxicity

Product:

Acute oral toxicity : Remarks: This information is not available.
Health injuries are not known or expected under normal use.

Components:

ammonium nitrate:

Acute oral toxicity : LD50 (Rat): > 2.950 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : > 88,8 mg/l
Method: No information available.

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402

Borates, tetra sodium salts, pentahydrate:

Acute oral toxicity : LD50 (Rat): 3.200 - 3.400 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2,0 mg/l
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

copper sulphate:

Acute oral toxicity : LD50 Oral (Rat): 300 mg/kg

Skin corrosion/irritation

Product:

Result: non-irritant
Remarks: The product has not been tested. The information is derived from the properties of the individual components.

Components:

ammonium nitrate:
Species: Rabbit
Method: OECD Test Guideline 404
Result: non-irritant

Borates, tetra sodium salts, pentahydrate:
Species: Rabbit
Result: No skin irritation

copper sulphate:
Assessment: Irritant

Serious eye damage/eye irritation

Product:

Species: Rabbit
Method: OECD Test Guideline 405
Result: non-irritant

Components:

ammonium nitrate:
Species: Rabbit
Method: OECD Test Guideline 405
Result: Irritant

Borates, tetra sodium salts, pentahydrate:
Species: Rabbit
Assessment: Irritant
Result: Moderate eye irritation

copper sulphate:
Assessment: Irritant

Respiratory or skin sensitisation

Product:

Result: non-sensitizing
Remarks: The product has not been tested. The information is derived from the properties of the individual components.

Components:

ammonium nitrate:
Result: Does not cause skin sensitisation.

Borates, tetra sodium salts, pentahydrate:
Test Type: Buehler Test
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

germ cell mutagenicity

Product:

Genotoxicity in vitro	:	Remarks: No data available

Components:

ammonium nitrate:

Genotoxicity in vitro	:	Method: OECD Test Guideline 471 Result: negative

Borates, tetra sodium salts, pentahydrate:

Germ cell mutagenicity-Assessment	:	In vitro tests showed mutagenic effects

Carcinogenicity

Product:

Remarks: Contains no ingredient listed as a carcinogen

Components:

ammonium nitrate:
Species: Rat
Remarks: Animal testing did not show any carcinogenic effects.

Borates, tetra sodium salts, pentahydrate:

Carcinogenicity - Assessment	:	Carcinogenicity classification not possible from current data.

Reproductive toxicity

Product:

Effects on fertility	:	Remarks: No toxicity to reproduction

Effects on foetal development	:	Remarks: Did not show teratogenic effects in animal experiments. Information given is based on data obtained from similar substances.

Components:

ammonium nitrate:

Effects on fertility	:	Species: Rat Remarks: Animal testing did not show any effects on fertility.
Effects on foetal development	:	Species: Rat Remarks: Did not show teratogenic effects in animal experiments.

Borates, tetra sodium salts, pentahydrate:

Reproductive toxicity - Assessment	:	In animal testing, risk of impaired fertility was shown only after administration of very high doses of this substance. May damage fertility. May damage the unborn child.

STOT - single exposure

Product:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Product:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

ammonium nitrate:
Species: Rat
NOAEL: > 1.500 mg/kg
Application Route: Oral
Exposure time: 28 d

Species: Rat
NOAEL: = 256 mg/kg
Application Route: Oral
Exposure time: 52 w
Method: OECD Test Guideline 453

Species: Rat

NOAEL: >= 185 mg/kg
Application Route: by inhalation
Exposure time: 2 w
Method: Repeated Dose Inhalation Toxicity: 28-day or 14-day Study.

Aspiration hazard

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

11.2 Information on other hazards

Endocrine disrupting properties

No data available

Experience with human exposure

Product:

General Information : Danger of methaemoglobin formation.

Further information

Product:

Remarks: The product was not tested. The statement was derived from products of similar structure and composition.

SECTION 12: Ecological information

12.1 Toxicity

Components:

ammonium nitrate:

Toxicity to fish	:	LC50 (Fish): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia (water flea)): 490 mg/l Exposure time: 48 h LC50 : 490 mg/l
Toxicity to algae	:	EC50 (Selenastrum capricornutum (green algae)): 1.700 mg/l Exposure time: 10 d

Borates, tetra sodium salts, pentahydrate:

Toxicity to fish	:	LC50 (dab): 74 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 242 mg/l Exposure time: 24 h

Toxicity to algae	:	EC10 (Scenedesmus subspicatus): 24 mg/l Exposure time: 96 h

copper sulphate:

Toxicity to fish	:	LC50 (Salmo sp.): 0,1 - 2,5 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,024 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Scenedesmus quadricauda (Green algae)): 0,1 mg/l Exposure time: 4 h

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

Components:

ammonium nitrate:

Biodegradability	:	Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.

Components:

ammonium nitrate:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water	:	log Pow: -3,1

12.4 Mobility in soil

Product:

Mobility	:	Remarks: Groundwater contamination is unlikely.
Distribution among environmental compartments	:	Remarks: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : Remarks: No data available

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Product:

Additional ecological information : Information refers to the main component.
Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Check if agriculture use is possible.
Contact manufacturer.

Contaminated packaging : Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 2071

ADR : Not regulated as a dangerous good

RID : Not regulated as a dangerous good

IMDG : UN 2071

IATA : UN 2071

14.2 UN proper shipping name

ADN : AMMONIUM NITRATE BASED FERTILIZER

ADR : Not regulated as a dangerous good

RID : Not regulated as a dangerous good

IMDG : AMMONIUM NITRATE BASED FERTILIZER

IATA : Ammonium nitrate based fertilizers

14.3 Transport hazard class(es)

ADN : 9

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	9
IATA	:	9

14.4 Packing group

ADN

Packing group	:	Not assigned by regulation
Classification Code	:	M11
Labels	:	9

ADR	:	Not regulated as a dangerous good
Special Provisions	:	UN2071: not subject to ADR (special provision 193)
RID	:	Not regulated as a dangerous good

IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-H, S-Q
Segregation group	:	2: Ammonium compounds

IATA

Packing instruction (cargo aircraft)	:	909
Packing instruction (passenger aircraft)	:	958
Packing instruction (LQ)	:	Y909
Packing group	:	III
Labels	:	9

14.5 Environmental hazards

ADN

Environmentally hazardous	:	no
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good

IMDG

Marine pollutant	:	no

14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Remarks	:	IMSBC Code bulk cargo shipping name Ammonium Nitrate Based Fertilizer, Group B

SECTION 15: Regulatory information

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
1	Ammonium nitrate: fertilizers capable of self-sustaining decomposition	5.000 t	10.000 t

Other regulations : TRGS 511 'Ammonium nitrate'

This product is subject to Regulation (EU) 2019/1148; suspicious transactions, disappearance or theft of the product must be reported to the relevant authority.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of H-Statements

H272	:	May intensify fire; oxidizer.
H302	:	Harmful if swallowed.
H315	:	Causes skin irritation.
H319	:	Causes serious eye irritation.
H360FD	:	May damage fertility. May damage the unborn child.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Irrit.	:	Eye irritation
Ox. Sol.	:	Oxidizing solids
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by

Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

The information provided in this Safety Data Sheet 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 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 materials or in any process, unless specified in the text.

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