

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

Trade name : NAUTIUS®
 Product code : FH-045 - Thifensulfuron-methyl 400g/kg + Tribenuron-methyl 150g/kg WG -

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

Main use category : Professional use
 Use of the substance/preparation : Agriculture Herbicide

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Rotam Europe Ltd
 Hamilton House
 Mabledon Place
 London WC1H 9BB
 Tel : +44 020 7953 0447
msds@rotam.com

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	NHS Direct (England and Wales)		111	
United Kingdom	NHS 24 (Scotland)		111	

SECTION 2: Hazards identification
2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]

Aquatic Chronic 1 ; H410
 Aquatic Acute 1 ; H400
 Full text of H-phrases: 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 symbols :



GHS 09

Signal word (CLP) : Warning
 Hazard statements (CLP) : H410 - Very toxic to aquatic life with long lasting effects
 Precautionary statements (CLP) : P273 - Avoid release to the environment
 P391 - Collect spillage
 P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.
 EUH phrases : EUH208 - Contains tribenuron-methyl. May produce an allergic reaction.
 EUH401 - To avoid risks to human health and the environment, comply with the instructions for use
 PPP safety precautions : SP 1 - Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads)
 SPe3 - To protect aquatic organisms respect an unsprayed buffer zone to surface water bodies in line with LERAP requirements

2.3. Other hazards

No additional information available

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]
Thifensulfuron-methyl	(CAS No.) 79277-27-3 (EC index no) 016-096-00-2	40	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Tribenuron-methyl	(CAS No.) 101200-48-0 (EC no) 401-190-1 (EC index no) 607-177-00-9	15	Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Mixture of Alkyl-naphthalene sulfonate, sodium salt and Sodium dioctyl sulphosuccinate		1 - 5	Skin irrit 2, H315 Eye dam. 1, H318
Mixture of Sulfonated aromatic polymer, sodium salt and Sodium dioctyl sulphosuccinate		1 - 5	Skin irrit 2, H315 Eye dam. 1, H318
Sulfonated aromatic polymer, sodium salt		5 - 15	Skin irrit 2, H315 Eye irrit 2, H319

Full text of H- and EUH-phrases: see section 16

4.1. Description of first aid measures

- First-aid measures general : Call a poison center or a doctor if you feel unwell.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
- First-aid measures after skin contact : Rinse immediately with plenty of water. In case of an skin reaction, consult a physician.
- First-aid measures after 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.
- First-aid measures after ingestion : Do NOT induce vomiting. Obtain emergency medical attention.

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

No additional 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 : Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).
- Unsuitable extinguishing media : High volume water jet.

5.2. Special hazards arising from the substance or mixture

- Hazardous decomposition products in case of fire : Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide, nitrogen oxides (NO_x).

5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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. Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

- Protective equipment : Wear a self-contained breathing apparatus and appropriate personal protective equipment (PPE).

6.2. Environmental precautions

Do not allow material to contaminate ground water system. Prevent entry to sewers, drains and public waters. Notify authorities if product enters drains, sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Sweep or shovel spills into appropriate container for disposal.
- Methods for cleaning up : Large spills: scoop solid spill into closing containers. On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
- Precautions for safe handling : Do not breathe spray, vapours. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Wear personal protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store tightly closed in a dry, cool and well-ventilated place.
- Incompatible materials : Oxidants, strong acids and strong bases.
- Storage area : Store away from heat.

7.3. Specific end use(s)

Professional use. See the label.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

No additional information available

8.2. Exposure controls

- Personal protective equipment : Avoid any unnecessary exposure. Use personal protective equipment that is clean and has been properly maintained. Store personal protective equipment in a clean place, away from the work area. Remove and wash contaminated clothing before re-using.
- Hand protection : Wear suitable protective gloves.
- Eye protection : Chemical goggles or safety glasses.
- Respiratory protection : Ensure that there is adequate ventilation, especially in confined areas.
- Other information : When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

- Physical state : Solid – water dispersible granule
- Appearance : Rod-shaped granules
- Colour : Off-white
- Odour : Mild characteristic odour
- pH at 1%(aqueous dilution, emulsion or dispersion) : 5.02 at 25°C (*CIPAC MT 75.3*)
- Relative evaporation rate (butylacetate=1) : No data available
- Melting point : Measured up to 171°C (active substance: Thifensulfuron-methyl), 137.9°C (active substance: tribenuron-methyl)
- Freezing point : No data available
- Boiling point : No data available
- Flash point : Not applicable
- Self ignition temperature : No self-ignition up to 400°C (*EEC A.16*)
- Decomposition temperature : No data available
- Flammability (solid, gas) : Not highly flammable (*EEC A.10*)
- Vapour pressure : Not applicable
- Relative vapour density at 20 °C : No data available
- Tap density : 0.75 g/ml (*CIPAC (F) MT 169*)
- Solubility : No data available
- Log Pow : 0.78 at pH = 7 (*active substance: tribenuron-methyl*)
1.65 at pH = 7 (*active substance: thifensulfuron-methyl*)
- Log Kow : Not applicable
- Viscosity, kinematic : Not applicable
- Viscosity, dynamic : Not applicable
- Explosive properties : Not explosive (*EEC A.14*)
- Oxidising properties : Not an oxidiser (*EEC A.17*)
- Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity**10.1. Reactivity**

The product is stable at normal handling- and storage conditions.

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according to Regulation No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids, strong bases and oxidation agents.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

NAUTIUS®	
LD50 oral rat	> 2000 mg/kg, (OECD 423)
LD50 dermal rat	> 2000 mg/kg, (OECD 402)
LC50 inhalation rat (mg/l)	> 3.46 mg/l/4h, (OECD 403)

Skin corrosion/irritation	: Not irritant to skin (OECD Guideline n°404)
Serious eye damage/irritation	: Not irritant to eyes (OECD Guideline n°405)
Respiratory or skin sensitisation	: Not skin sensitizing (OECD Guideline n°406)
Repeated dose toxicity	: Not classified
Carcinogenicity	: Not classified
Mutagenicity	: Not classified
Toxicity for reproduction	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

NAUTIUS®	
LC50 fishes 96h	> 100 mg/L, (<i>O. mykiss</i>), (OECD 203)
EC50 daphnia 48h	31.36 mg/L, (<i>D. magna</i>), (OECD 202)
EbC50 algae 72h	0.068 mg/L, (<i>P. subcapitata</i>) (OECD 201)
EC50 aquatic plant 14d	0.00093 mg/L, (<i>L. gibba</i>), (OECD 221)

12.2. Persistence and degradability

Thifensulfuron-methyl is not readily biodegradable.
Tribenuron-methyl is not readily biodegradable.

12.3. Bioaccumulative potential

Thifensulfuron-methyl	
Log Pow	1.65 at pH = 7

Tribenuron-methyl	
Log Pow	0.78 at pH = 7

12.4. Mobility in soil

Tribenuron-methyl: KFoc= 9.8 - 74 ml/g
Thifensulfuron-methyl: KFoc= 3 - 86 ml/g

12.5. Results of PBT and vPvB assessment

Thifensulfuron-methyl and tribenuron-methyl do not fulfill the criteria of PBT substances.

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

UN-No. (ADR)	: 3077
UN-No. (IMDG)	: 3077
UN-No. (IATA)	: 3077
UN-No. (ADN)	: 3077
UN-No. (RID)	: 3077

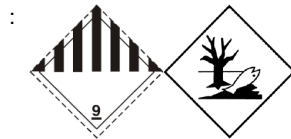
14.2. UN proper shipping name

Proper Shipping Name (ADR)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Proper Shipping Name (IMDG)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Proper Shipping Name (IATA)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Proper Shipping Name (ADN)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Proper Shipping Name (RID)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport document description (ADR)	: UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl/Tribenuron-methyl), 9, III, (E)
Transport document description (IMDG)	: UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl/Tribenuron-methyl), 9, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	: UN 3077 Environmentally hazardous substance, SOLID, n.o.s. (Thifensulfuron-methyl/Tribenuron-methyl), 9, III, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	: UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl/Tribenuron-methyl), 9, III, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	: UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl/Tribenuron-methyl), 9, III, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: 9
Danger labels (ADR)	: 9



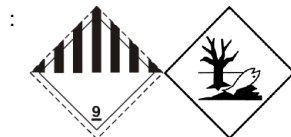
IMDG

Transport hazard class(es) (IMDG)	: 9
Danger labels (IMDG)	: 9



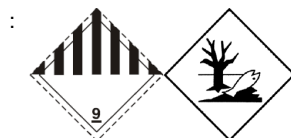
IATA

Transport hazard class(es) (IATA)	: 9
Hazard labels (IATA)	: 9



ADN

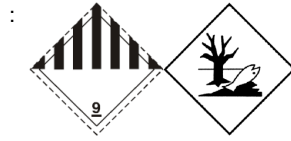
Transport hazard class(es) (ADN)	: 9
Danger labels (ADN)	: 9



RID

Transport hazard class(es) (RID)	: 9
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Danger labels (RID) : 9



14.4. Packing group


Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : M7
Special provisions (ADR) : 274, 335, 601, 375
Limited quantities (ADR) : 5kg
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P002, IBC08, LP02, R001
Special packing provisions (ADR) : PP12, B3
Mixed packing provisions (ADR) : MP10
Portable tank and bulk container instructions (ADR) : T1, BK1, BK2
Portable tank and bulk container special provisions (ADR) : TP33
Tank code (ADR) : SGAV, LGBV
Vehicle for tank carriage : AT
Transport category (ADR) : 3
Special provisions for carriage - Packages (ADR) : V13
Special provisions for carriage - Bulk (ADR) : VC1, VC2
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13
Hazard identification number (Kemler No.) : 90
Orange plates : 
Tunnel restriction code (ADR) : E
EAC code : 2Z

- Transport by sea

Special provisions (IMDG) : 274, 335, 966, 967, 969
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
Special packing provisions (IMDG) : PP12
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1, BK1, BK2, BK3
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F
Stowage category (IMDG) : A

Stowage and handling (IMDG) : SW23

- Air transport

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y956
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 956
PCA max net quantity (IATA) : 400kg
CAO packing instructions (IATA) : 956
CAO max net quantity (IATA) : 400kg
Special provisions (IATA) : A97, A158, A179, A197
ERG code (IATA) : 9L

- Inland waterway transport

Classification code (ADN) : M7
Special provisions (ADN) : 274, 335, 375, 601
Limited quantities (ADN) : 5 kg
Excepted quantities (ADN) : E1
Carriage permitted (ADN) : T* B**
Equipment required (ADN) : PP, A
Number of blue cones/lights (ADN) : 0

- Rail transport

Classification code (RID) : M7
Special provisions (RID) : 274, 335, 375, 601
Limited quantities (RID) : 5kg
Excepted quantities (RID) : E1
Packing instructions (RID) : P002, IBC08, LP02, R001
Special packing provisions (RID) : PP12, B3
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T1, BK1, BK2
Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAV, LGBV
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W13
Special provisions for carriage – Bulk (RID) : VC1, VC2
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW31
Colis express (express parcels) (RID) : CE11
Hazard identification number (RID) : 90

14.7. Transport in bulk according to Annex II of MARPOL 73/78 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

No REACH Annex XVII restrictions
Contains no REACH candidate substance

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

The mixture is registered as a plant protection product according to Regulation (EC) No.1107 / 2009.

SECTION 16: Other information

NAUTIUS® is a registered trademark of ROTAM.

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

Full text of H- and EUH-phrases::

Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Skin Sens. 1	Skin sensitisation Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Skin Irrit. 2	skin corrosion/irritation Category 2
H315	Causes skin irritation.
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SDS EU (REACH Annex II)

Disclaimer: The information provided by Rotam Europe Ltd contained herein is given in good faith and correct to the best of our knowledge. However, the information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.