RADIATOR FLUSH

Product code: 77005

Issue date: 20/05/2020
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Version: 2.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
Product form : Mixture
Product name : 77 Lubricants Radiator Flush
Product code : 77005

1.2 Relevant identified uses of the substance or mixture and uses advised against - Relevant identified uses
Main use category: Professional use
Function or use category: Lubricants and additives

1.3 Details of the supplier of the safety data sheet
· Petromark Automotive Chemicals B.V.
· Rooswijkweg 316
· 1951 ME Velsen-Noord – Nederland
· T +31 251 211397, F +31 251 212390
· info@petromark.eu

1.4 Emergency telephone number: Tel: +31 251 211397

Country/ Area	Organisation/Company	Address	Emergency number
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)

SECTION 2: HAZARDS IDENTIFICATION.

2.1. Classification of the substance or mixture

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

Hazardous to the aquatic environment – Chronic Hazard, H412
Category 3
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Harmful to aquatic life with long lasting effects.

2.2. Label elements

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

Signal word (CLP) :	-
Hazard statements (CLP) :	H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (CLP) :	P273 - Avoid release to the environment. P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
EUH-statements :	EUH208 - Contains 1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one(2634-33-5). May produce an allergic reaction.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Amines, tallow alkyl, ethoxylated	CAS-No.: 61791-26-2 EC-No.: 500-153-8	< 1	Acute Tox. 4 (Oral), H302 (ATE=300 mg/kg bodyweight) Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one	CAS-No.: 2634-33-5 EC-No.: 220-120-9 EC Index-No.: 613-088-00-6	< 0.05	Acute Tox. 2 (Inhalation:dust,mist), H330 (ATE=0.21 mg/l) Acute Tox. 4 (Oral), H302 (ATE=450 mg/kg bodyweight) Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Specific concentration limits:		
Name	**Product identifier**	**Specific concentration limits (%)**
1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one	CAS-No.: 2634-33-5 EC-No.: 220-120-9 EC Index-No.: 613-088-00-6	(0.05 ≤ C ≤ 100) Skin Sens. 1A; H317

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

SECTION 4: FIRST AID MEASURES.

4.1. Description of first aid measures

First-aid measures general: If you feel unwell, seek medical advice.
First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact: Wash skin with plenty of water.
First-aid measures after eye contact: Rinse eyes with water as a precaution.
First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.
Self protection of the first-aider: First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation: None under normal conditions.
Symptoms/effects after skin contact: None under normal conditions.
Symptoms/effects after eye contact: None under normal conditions.
Symptoms/effects after ingestion: None under normal conditions.

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

Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES.

5.1 Extinguishing media

Suitable extinguishing media: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard: No fire hazard.
Explosion hazard: No direct explosion hazard.
Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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

General measures: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel
Protective equipment: Wear recommended personal protective equipment.
Emergency procedures: Ventilate spillage area.

For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

Emergency procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.

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6.2. Environmental precautions Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up: Take up liquid spill into absorbent material.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections For further information refer to section 13.

SECTION 7: HANDLING AND STORAGE.

7.1. Precautions for safe handling

Additional hazards when processed: Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Keep in a cool, well-ventilated place away from heat.

Storage conditions: Keep cool. Protect from sunlight.

Packaging materials: Store always product in container of same material as original container.

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 good ventilation of the work station.

Personal protection equipment

Gloves. Safety glasses. Protective clothing.

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Personal protective equipment symbol(s):

Eye and face protection
Eye protection:
Safety glasses

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses	Droplet	clear	EN 166

Skin protection
Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Reusable gloves	Neoprene rubber (HNBR)				EN ISO 374

Respiratory protection
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls
Environmental exposure controls:
Avoid release to the environment.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	colourless to yellow.
Odour:	characteristic.
Odour threshold:	Not available
Melting point:	Not applicable
Freezing point:	Not available
Boiling point:	Not available
Flammability:	Non flammable.
Lower explosion limit:	Not available
Upper explosion limit:	Not available
Flash point:	Not available
Auto-ignition temperature:	> 200 °C
Decomposition temperature:	Not available
pH:	9.5 – 10.5
Viscosity, kinematic:	Not available
Solubility:	soluble in water.
Partition coefficient n-octanol/water (Log Kow):	Not available
Vapour pressure:	Not available
Vapour pressure at 50°C:	Not available
Density:	1 g/cm^3 @ 20°C
Relative density:	Not available
Relative vapour density at 20°C:	Not available
Particle characteristics:	Not applicable

9.2 Other information

No additional information available

SECTION 10: STABILITY AND REACTIVITY.

10.1. Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
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	None under recommended storage and handling conditions (see section 7).
10.5. Incompatible materials	Strong oxidizing agents.
10.6. Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11: TOXICOLOGICAL INFORMATION.

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

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

1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one (2634-33-5)	
LD50 oral (rat)	1193 mg/kg
LD50 dermal (rat)	> 2000 mg/kg bodyweight OECD Guideline 402

Amines, tallow alkyl, ethoxylated (61791-26-2)	
LD50 oral (rat)	500 mg/kg
LD50 dermal (rat)	300 – 2000 mg/kg

Skin corrosion/irritation: Not classified
pH: 9.5 – 10.5
Serious eye damage/irritation: Not classified
pH: 9.5 – 10.5
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified

1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one (2634-33-5)	
NOAEL (animal/female, F1)	56.8 mg/kg EPA OPPTS 870.3800

STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

11.2. Information on other hazards

Aspiration hazard: Not classified

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Viscosity, kinematic	588 – 700 mm²/s @ 40°C (ASTM D7042)

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SECTION 12: ECOLOGICAL INFORMATION.

12.1 Toxicity

Ecology - general: 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.

1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one (2634-33-5)	
LC50 - Fish [1]	16.7 mg/l Cyprinodon variegatus
EC50 - Crustacea [1]	2.94 mg/l Daphnia magna
EC50 72h - Algae [1]	0.11 mg/l Pseudokirchneriella subcapitata
NOEC chronic algae	0.027 mg/l OECD 201 method

Amines, tallow alkyl, ethoxylated (61791-26-2)	
LC50 - Fish [1]	0.13 mg/l
EC50 - Crustacea [1]	0.17 mg/l

12.2 Persistence and degradability

77 Lubricants Radiator Flush	
Persistence and degradability	Not rapidly degradable

1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one (2634-33-5)	
Persistence and degradability	Rapidly degradable

Amines, tallow alkyl, ethoxylated (61791-26-2)	
Persistence and degradability	Rapidly degradable

12.3 Bioaccumulative potential

1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one (2634-33-5)	
Partition coefficient n-octanol/water (Log Pow)	0.7 @ 20°C

12.4. Mobility in soil No additional information available
12.5. Results of PBT and vPvB assessment No additional information available
12.6. Endocrine disrupting properties No additional information available
12.7. Other adverse effects No additional information available

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SECTION 13: DISPOSAL CONSIDERATIONS.

13.1. Waste treatment methods

Regional waste regulation: Disposal must be done according to official regulations.

Waste treatment methods: Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations: Disposal must be done according to official regulations.

Product/Packaging disposal recommendations: Disposal must be done according to official regulations.

Additional information: Do not re-use empty containers.

HP Code: HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: TRANSPORT INFORMATION.

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

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14.6. Special precautions for user

Overland transport	Not regulated
Transport by sea	Not regulated
Air transport	Not regulated
Inland waterway transport	Not regulated
Rail transport	Not regulated

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

REACH Annex XVII (Restriction List)
Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)
Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)
Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)
Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)
Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)
Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items
Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (EU 2019/1148)
Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (EC 273/2004)
Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

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15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: OTHER INFORMATION.

Abbreviations and acronyms:

ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail

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SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:

Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
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
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1A	Skin sensitisation, category 1A
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains 1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one(2634-33-5). May produce an allergic reaction.

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