



MAROIL S.R.L.

Revision nr. 14

Dated 23/04/2024

OCTANE BOOSTER Motorcycle

Printed on 23/04/2024

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Replaced revision:13 (Printed on: 12/10/2022)

Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Code: M 104
Product name: OCTANE BOOSTER Motorcycle
UFI: A090-G056-1008-HV72

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

Intended use: Gasoline octane elevator

1.3. Details of the supplier of the safety data sheet

Name: MAROIL S.R.L.
Full address: LOC. PONTE ALLA CILIEGIA
District and Country: 55011 MARGINONE ALTOPASCIO (LU)
ITALIA
Tel. 0583/28731
Fax 0583/286542

e-mail address of the competent person responsible for the Safety Data Sheet: msds@bardahl.it

1.4. Emergency telephone number

For urgent inquiries refer to:
Numeri telefonici dei principali Centri Antiveleni italiani (attivi 24/24 ore)
Centro Antiveleni di Pavia 0382 24444 (CAV IRCCS Fondazione Maugeri - Pavia)
Centro Antiveleni di Milano 02 66101029 (CAV Ospedale Niguarda Ca` Granda - Milano)
Centro Antiveleni di Bergamo 800 883300 (CAV Ospedali Riuniti - Bergamo)
Centro Antiveleni di Firenze 055 7947819 (CAV Ospedale Careggi - Firenze)
Centro Antiveleni di Roma 06 3054343 (CAV Policlinico Gemelli - Roma)
Centro Antiveleni di Roma 06 49978000 (CAV Policlinico Umberto I - Roma)
Centro Antiveleni di Napoli 081 7472870 (CAV Ospedale Cardarelli - Napoli)

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Acute toxicity, category 2	H330	Fatal if inhaled.
Acute toxicity, category 4	H302	Harmful if swallowed.
Acute toxicity, category 4	H312	Harmful in contact with skin.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.



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Skin irritation, category 2

H315

Causes skin irritation.

Hazardous to the aquatic environment, chronic toxicity, category 2

H411

Toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

Hazard statements:

- H330** Fatal if inhaled.
- H302** Harmful if swallowed.
- H312** Harmful in contact with skin.
- H304** May be fatal if swallowed and enters airways.
- H315** Causes skin irritation.
- H411** Toxic to aquatic life with long lasting effects.

Precautionary statements:

- P501** Dispose of contents / container in accordance with national regulations
- P102** Keep out of reach of children.
- P101** If medical advice is needed, have product container or label at hand.
- P260** Do not breathe dust / fume / gas / mist / vapours / spray.
- P331** Do NOT induce vomiting.
- P310** Immediately call a POISON CENTER or doctor.
- P304+P340** IF INHALED: remove person to fresh air and keep comfortable for breathing.

Contains: Hydrodesulfurized kerosene (petroleum)
Distillates (petroleum), solvent-refined light paraffinic
Methylcyclopentadienyl manganese tricarbonyl

**OCTANE BOOSTER Motorcycle**

Solvent naphtha (petroleum), heavy aromatic

2.3. Other hazardsOn the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.The product does not contain substances with endocrine disrupting properties in concentration \geq 0.1%.**SECTION 3. Composition/information on ingredients****3.2. Mixtures**

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
Distillates (petroleum), solvent-refined light paraffinic INDEX 649-455-00-2 EC 265-091-3 CAS 64741-89-5 REACH Reg. 01-2119487067-30	$74 \leq x < 78$	Asp. Tox. 1 H304, Classification note according to Annex VI to the CLP Regulation: L
Hydrodesulfurized kerosene (petroleum) INDEX 649-423-00-8 EC 265-184-9 CAS 64742-81-0 REACH Reg. 01-2119462828-25	$12 \leq x < 13,5$	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 2 H411
Methylcyclopentadienyl manganese tricarbonyl INDEX - EC 235-166-5 CAS 12108-13-3	$7 \leq x < 8$	Acute Tox. 1 H330, Acute Tox. 2 H310, Acute Tox. 3 H301, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1 LD50 Oral: 51,8 mg/kg, LD50 Dermal: 140 mg/kg, LC50 Inhalation vapours: 0,076 mg/l/4h
Solvent naphtha (petroleum), heavy aromatic INDEX 649-424-00-3 EC 265-198-5 CAS 64742-94-5	$3,5 \leq x < 4$	Asp. Tox. 1 H304
1,3,5-TRIMETHYLBENZENE INDEX 601-025-00-5 EC 203-604-4 CAS 108-67-8	$0,6 \leq x < 0,7$	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Chronic 2 H411 STOT SE 3 H335: $\geq 25\%$
1,2,4-TRIMETHYLBENZENE INDEX 601-043-00-3 EC 202-436-9 CAS 95-63-6	$0,6 \leq x < 0,7$	Flam. Liq. 3 H226, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Chronic 2 H411 ATE Inhalation vapours: 11 mg/l, ATE Inhalation mists/powders: 1,5 mg/l



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naphthalene

INDEX 601-052-00-2

$0,6 \leq x < 0,7$

Carc. 2 H351, Acute Tox. 4 H302, Aquatic Acute 1 H400 M=1, Aquatic

EC 202-049-5

Chronic 1 H410 M=1

LD50 Oral: 710 mg/kg

CAS 91-20-3

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

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

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

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

Immediately call a POISON CENTER / doctor / . . .

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.



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5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

**7.3. Specific end use(s)**

Information not available

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

Regulatory references:

BGR	България	НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.)
CZE	Česká Republika	NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci
DEU	Deutschland	Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58
DNK	Danmark	Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019
ESP	España	Límites de exposición profesional para agentes químicos en España 2023
EST	Eesti	Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piinormid [RT I, 21.12.2022, 14]
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France Décret n° 2021-1849 du 28 décembre 2021
FIN	Suomi	HTP-VÄRDEN 2020. Koncentrationer som befunnits skadliga. SOCIAL - OCH HÄLSOVÄRDSMINISTERIETS PUBLIKATIONER 2020:25
GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/Α' 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ``σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιογόνους παράγοντες κατά την εργασία``»
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
HRV	Hrvatska	Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
LVA	Latvija	Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §)
NLD	Nederland	Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit
PRT	Portugal	Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006
SWE	Sverige	Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1)
SVK	Slovensko	NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov
SVN	Slovenija	Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2023

Distillates (petroleum), solvent-refined light paraffinic**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				0,74 mg/kg bw/d				



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Inhalation	1,19 mg/m3	5,4 mg/m3
Skin		0,97 mg/kg bw/d

Hydrodesulfurized kerosene (petroleum)

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				18,8 mg/kg bw/d				
Inhalation				40 mg/m3				40 mg/m3

Methylcyclopentadienyl manganese tricarbonyl

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
VLA	ESP	0,2		
VLEP	FRA	0,2		
RV	LVA	0,1		

naphthalene

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
VLEP	FRA	50	10	
OEL	EU	50	10	

1,2,4-TRIMETHYLBENZENE

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
TLV	BGR	100	20	
TLV	CZE	100	20	250 50
AGW	DEU	100	20	200 40
MAK	DEU	100	20	200 40
TLV	DNK	100	20	E
VLA	ESP	100	20	
TLV	EST	100	20	
VLEP	FRA	100	20	250 50
TLV	GRC	125	25	
AK	HUN	100		
GVI/KGVI	HRV	100	20	
VLEP	ITA	100	20	
RV	LVA	100	20	
TGG	NLD	100		200

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VLE	PRT	100	20		
NDS/NDSch	POL	100		170	SKIN
TLV	ROU	100	20		
NGV/KGV	SWE	100	20	170	35
NPEL	SVK	100	20		
MV	SVN	100	20		
OEL	EU	100	20		
TLV-ACGIH		123	25		

1,3,5-TRIMETHYLBENZENE**Threshold Limit Value**

Type	Country	TWA/8h	STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	
TLV	BGR	100	20		
TLV	CZE	100	20	250	50
AGW	DEU	100	20	200	40
MAK	DEU	100	20	200	40
TLV	DNK	100	20		E
VLA	ESP	100	20		
VLEP	FRA	100	20	250	50
HTP	FIN	100	20		
TLV	GRC	125	25		
AK	HUN	100			
GVI/KGVI	HRV	100	20		
VLEP	ITA	100	20		
RV	LVA	100	20		
TGG	NLD	100		200	
VLE	PRT	100	20		
NDS/NDSch	POL	100		170	SKIN
TLV	ROU	100	20		
NGV/KGV	SWE	100	20	170	35
NPEL	SVK	100	20		
MV	SVN	100	20	200	40
OEL	EU	100	20		
TLV-ACGIH		123	25		

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.



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8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	yellow	
Odour	characteristic	

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Melting point / freezing point	not available
Initial boiling point	not available
Flammability	not available
Lower explosive limit	not available
Upper explosive limit	not available
Flash point	90 °C
Auto-ignition temperature	not available
Decomposition temperature	not available
pH	not available
Kinematic viscosity	8 cSt
Solubility	insoluble
Partition coefficient: n-octanol/water	not available
Vapour pressure	not available
Density and/or relative density	0,89 kg/l
Relative vapour density	not available
Particle characteristics	not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Viscosita a 40°C	8,28 cSt
Viscosità a 100°C	Dati non disponibili
Punto di scorrimento	Dati non disponibili
Consistenza	Non pertinente
Punto di gocciolamento	Non pertinente

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

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

10.4. Conditions to avoid

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Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

SECTION 11. Toxicological informationMetabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY ATE (Inhalation - vapours) of the mixture: 0,95 mg/l
ATE (Oral) of the mixture: 647,50 mg/kg
ATE (Dermal) of the mixture: 1750,00 mg/kg

Distillates (petroleum), solvent-refined light paraffinic

LD50 (Dermal): > 2000 mg/kg Coniglio - OECD Guideline 402
LD50 (Oral): > 5000 mg/kg Ratto - OECD Guideline 401
LC50 (Inhalation vapours): > 5,53 mg/l/4h Ratto - OECD Guideline 403

Hydrodesulfurized kerosene (petroleum)

LD50 (Dermal): > 2000 mg/kg Equivalente o similare a OECD Guideline 402 - Coniglio
LD50 (Oral): > 5000 mg/kg Equivalente o similare a OECD Guideline 420 - Ratto
LC50 (Inhalation vapours): > 5,28 mg/l/4h Equivalente o similare a OECD Guideline 403 - Ratto

Methylcyclopentadienyl manganese tricarbonyl

LD50 (Dermal): 140 mg/kg Equivalente o similare a OECD Guideline 402 - Coniglio
LD50 (Oral): 51,8 mg/kg Equivalente o similare a OECD Guideline 401 - Ratto
LC50 (Inhalation vapours): 0,076 mg/l/4h Rat - Equivalente o similare a OECD Guideline 403

Solvent naphtha (petroleum), heavy aromatic

LD50 (Dermal): > 2000 mg/kg bw Coniglio - Equivalente o similare a OECD Guideline 402
LD50 (Oral): > 5000 mg/kg bw Ratto - Equivalente o similare a OECD Guideline 420
LC50 (Inhalation vapours): > 5,28 mg/l/4h Ratto - Equivalente o similare a OECD Guideline 403

naphthalene

LD50 (Dermal): > 16000 mg/kg Equivalente o similare a OECD Guideline 402 - Ratto



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LD50 (Oral):
LC50 (Inhalation vapours):

710 mg/kg Equivalente o similare a OECD Guideline 401 - Ratto Femmina
> 0,4 mg/l/4h Equivalente o similare a OECD Guideline 403 - Ratto

1,3,5-TRIMETHYLBENZENE

LD50 (Dermal):
LD50 (Oral):

> 2000 mg/kg Rat
6000 mg/kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Toxic for aspiration

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it has negative effects on the aquatic environment.

12.1. Toxicity

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Hydrodesulfurized kerosene (petroleum)

EC50 - for Crustacea 1,4 mg/l/48h Daphnia

Methylcyclopentadienyl manganese
tricarbonyl

LC50 - for Fish 0,21 mg/l/96h OECD Guideline 203 - Cyprinus carpio

EC50 - for Crustacea 0,83 mg/l/48h EPA OTS 797.1300 - Daphnia magna

EC10 for Algae / Aquatic Plants 0,11 mg/l/48h OECD Guideline 201 - Pseudokirchneriella subcapitata

naphthalene

LC50 - for Fish 1,6 mg/l/96h Equivalente o similare a OECD Guideline 203 - Oncorhynchus mykiss

EC50 - for Crustacea 2,16 mg/l/48h Equivalente o similare a OECD Guideline 202 - Daphnia magna

Chronic NOEC for Fish 0,37 mg/l/40d Oncorhynchus kisutch

Chronic NOEC for Crustacea 0,59 mg/l/125d Daphnia pulex

1,3,5-TRIMETHYLBENZENE

LC50 - for Fish 12,52 mg/l/96h Carassius auratus

EC50 - for Crustacea 6 mg/l/48h Daphnia magna

12.2. Persistence and degradabilityDistillates (petroleum), solvent-refined light
paraffinic
Entirely degradable

31 % (28d, Exxon 1995)

Methylcyclopentadienyl manganese
tricarbonyl
NOT rapidly degradable

1,2,4-TRIMETHYLBENZENE

Solubility in water 0,1 - 100 mg/l

Rapidly degradable
naphthalene

Rapidly degradable

1,3,5-TRIMETHYLBENZENE

Solubility in water 0,1 - 100 mg/l

NOT rapidly degradable

12.3. Bioaccumulative potential

1,2,4-TRIMETHYLBENZENE

Partition coefficient: n-octanol/water 3,65

BCF 243

1,3,5-TRIMETHYLBENZENE

Partition coefficient: n-octanol/water 3,42

12.4. Mobility in soil



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Information not available

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 2810

14.2. UN proper shipping name

ADR / RID: TOXIC LIQUID, ORGANIC, N.O.S. (Methylcyclopentadienyl manganese tricarbonyl)

IMDG: TOXIC LIQUID, ORGANIC, N.O.S. (Methylcyclopentadienyl manganese tricarbonyl; Hydrodesulfurized kerosene (petroleum))

IATA: TOXIC LIQUID, ORGANIC, N.O.S. (Methylcyclopentadienyl manganese tricarbonyl)

14.3. Transport hazard class(es)

ADR / RID: Class: 6.1 Label: 6.1

IMDG: Class: 6.1 Label: 6.1





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IATA: Class: 6.1 Label: 6.1



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 60	Limited Quantities: 5 lt	Tunnel restriction code: (E)
	Special provision: 274, 614		
IMDG:	EMS: F-A, S-A	Limited Quantities: 5 lt	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 663
	Passengers:	Maximum quantity: 60 L	Packaging instructions: 655
	Special provision:	A3, A4, A137	

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU: H2-E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product Point 3 - 40

Contained substance



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Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

not applicable

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 3	Flammable liquid, category 3
Carc. 2	Carcinogenicity, category 2
Acute Tox. 1	Acute toxicity, category 1
Acute Tox. 2	Acute toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2

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STOT SE 3	Specific target organ toxicity - single exposure, category 3
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H226	Flammable liquid and vapour.
H351	Suspected of causing cancer.
H330	Fatal if inhaled.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
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.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile



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- WGK: Water hazard classes (German).

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 - ECHA website
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Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

03 / 04 / 08 / 12 / 14.