



Date : 15/04/2015  
Version : 2

# SAFETY DATA SHEET

## Lucas Octane Booster

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

#### 1.1 Product identifier

**Product name** : Lucas Octane Booster  
**Product number** : 10026 10725

**Product description** : Not available.  
**Product type** : Liquid.  
**Other means of identification** : Not available.

**Only representative** : H2 Compliance.  
Rubicon Building, CIT Campus,  
Bishopstown, Cork, Ireland.  
T: +353 21 4868120,  
Web page: [www.h2compliance.com](http://www.h2compliance.com)

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

Gasoline additive.

#### 1.3 Details of the supplier of the safety data sheet

**Supplier's details** : Lucas Oil Products, Inc  
302 North Sheridan Street  
Corona, California 92880-2067  
Toll Free: (800) 342-2512  
Tel: (951) 270-0154  
Fax: (951) 270-1902  
Website: [www.LucasOil.com](http://www.LucasOil.com)

**e-mail address of person responsible for this SDS** : [Markn@lucasoil.com](mailto:Markn@lucasoil.com)

#### 1.4 Emergency telephone number

**Telephone number** : (951) 493-1149  
(951) 847-5949

**Hours of operation** : 7:00A.M. to 5:00P.M. Monday thru Friday





## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

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

Acute Tox. 2, H330

STOT RE 1, H372

Asp. Tox. 1, H304

Aquatic Chronic 2, H411

#### Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : T; R23  
Xn; R48/20, R65  
N; R51/53

**Human health hazards** : Toxic by inhalation. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Harmful: may cause lung damage if swallowed.

**Environmental hazards** : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** : H330 - Fatal if inhaled.  
H304 - May be fatal if swallowed and enters airways.  
H372 - Causes damage to organs through prolonged or repeated exposure.  
H411 - Toxic to aquatic life with long lasting effects.

#### Precautionary statements

**General** : P103 - Read label before use.  
P102 - Keep out of reach of children.  
P101 - If medical advice is needed, have product container or label at hand.

**Prevention** : P284 - Wear respiratory protection.  
P273 - Avoid release to the environment.  
P260 - Do not breathe vapour.

**Response** : P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTRE or physician.  
P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTRE or physician. Do NOT induce vomiting.

**Storage** : P405 - Store locked up.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazard symbol or symbols** :





## SECTION 2: Hazards identification

- Indication of danger** : Toxic, Dangerous for the environment
- Risk phrases** : R23- Toxic by inhalation.  
R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
R65- Harmful: may cause lung damage if swallowed.  
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- Safety phrases** : S1/2- Keep locked up and out of the reach of children.  
S29- Do not empty into drains.  
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.  
S63- In case of accident by inhalation: remove casualty to fresh air and keep at rest.
- Supplemental label elements** : Not applicable.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.
- Special packaging requirements**
- Containers to be fitted with child-resistant fastenings** : Yes, applicable.
- Tactile warning of danger** : Yes, applicable.

### 2.3 Other hazards

- Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Solvent naphtha (petroleum), medium aliph.	EC: 265-191-7 CAS: 64742-88-7 Index: 649-405-00-X	>=35 - <50	Xn; R65	STOT RE 1, H372 (central nervous system (CNS)) Asp. Tox. 1, H304 Acute Tox. 3, H301	[1]
Tricarbonyl (methylcyclopentadienyl) manganese	EC: 235-166-5 CAS: 12108-13-3	>=2.5 - <3	T+; R26 T; R24/25, R48/23 Xi; R38 N; R50/53	Acute Tox. 2, H310 Acute Tox. 1, H330 Skin Irrit. 2, H315 STOT RE 1, H372 (lungs) (inhalation) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type





## SECTION 3: Composition/information on ingredients

- [1] Substance classified with a health or environmental hazard  
[2] Substance with a workplace exposure limit  
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII  
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII  
[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

See Section 16 for the full text of the R-phrases declared above.

See Section 16 for the full text of the H statements declared above.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention if irritation occurs.
- Inhalation** : Get medical attention immediately. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

#### Potential acute health effects

- Eye contact** : May cause eye irritation.
- Inhalation** : Toxic by inhalation.
- Skin contact** : May cause skin irritation.
- Ingestion** : Aspiration hazard if swallowed. Can enter lungs and cause damage.

#### Over-exposure signs/symptoms

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.





## SECTION 4: First aid measures

- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet or water-based fire extinguishers.

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.





## SECTION 6: Accidental release measures

**6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### 6.3 Methods and material for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not swallow. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities





## SECTION 7: Handling and storage

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

### Seveso II Directive - Reporting thresholds (in tonnes)

#### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
H2: Acute toxicity 2 any route of entry or Acute toxicity 3 Inhalation/Dermal route of entry	50	200
E2: Hazardous to the aquatic environment - Chronic 2	200	500
C2: Toxic	50	200
C9ii: Toxic for the environment	200	500

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker or exposure or environmental releases.

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
Tricarbonyl(methylcyclopentadienyl)manganese	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 0.5 mg/m <sup>3</sup> , (as Mn) 8 hours.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

No DNELs/DMELs available.

#### PNECs

No PNECs available





## SECTION 8: Exposure controls/personal protection

### 8.2 Exposure controls

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

- Physical state** : Liquid. [Clear.]
- Colour** : Yellow. [Light]
- Odour** : Petroleum solvent.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.







## SECTION 9: Physical and chemical properties

<b>Initial boiling point and boiling range</b>	: 191.11 to 211.11°C
<b>Flash point</b>	: Closed cup: 87.77°C
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Upper/lower flammability or explosive limits</b>	: Not available.
<b>Vapour pressure</b>	: Not available.
<b>Vapour density</b>	: Not available.
<b>Relative density</b>	: 0.8706
<b>Solubility(ies)</b>	: Negligible at 25°C
<b>Partition coefficient: n-octanol/ water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Kinematic (100°C (212°F)): 0.04 cm <sup>2</sup> /s (4 cSt)
<b>Explosive properties</b>	: Not available.
<b>Oxidising properties</b>	: Not available.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidising materials.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.





## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Tricarbonyl(methylcyclopentadienyl) manganese	LC50 Inhalation Dusts and mists	Rat	247 mg/m <sup>3</sup>	1 hours
	LC50 Inhalation Dusts and mists	Rat	76 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	140 mg/kg	-
	LD50 Dermal	Rat	665 mg/kg	-
	LD50 Oral	Rat	8 mg/kg	-

#### Acute toxicity estimates

Route	ATE value
Oral	3367 mg/kg
Dermal	4713.8 mg/kg
Inhalation (vapours)	1.684 mg/L

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Tricarbonyl(methylcyclopentadienyl) manganese	Skin - Mild irritant	Rabbit	-	24 hours 100 mg	-

#### Sensitisation

There is no data available.

#### Carcinogenicity

There is no data available.

#### Specific target organ toxicity (single exposure)

There is no data available.

#### Specific target organ toxicity (repeated exposure)

There is no data available.

#### Aspiration hazard

There is no data available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

#### Potential acute health effects

- Eye contact** : May cause eye irritation.
- Inhalation** : Toxic by inhalation.
- Skin contact** : May cause skin irritation.
- Ingestion** : Aspiration hazard if swallowed. Can enter lungs and cause damage.

#### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting





## SECTION 11: Toxicological information

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

#### Long term exposure

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

#### Potential chronic health effects

**General** : Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

There is no data available.

### 12.2 Persistence and degradability

There is no data available.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Tricarbonyl(methylcyclopentadienyl) manganese	3.4	-	high

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : There is no data available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 Other adverse effects** : No known significant effects or critical hazards.





## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.





**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
<b>14.1 UN number</b>	UN2810	UN2810	UN2810	UN2810
<b>14.2 UN proper shipping name</b>	TOXIC LIQUID, ORGANIC, N.O.S. (Tricarbonyl (methylcyclopentadienyl) manganese)	TOXIC LIQUID, ORGANIC, N.O.S. (Tricarbonyl (methylcyclopentadienyl) manganese)	TOXIC LIQUID, ORGANIC, N.O.S. (Tricarbonyl (methylcyclopentadienyl) manganese)	TOXIC LIQUID, ORGANIC, N.O.S. (Tricarbonyl (methylcyclopentadienyl) manganese)
<b>14.3 Transport hazard class(es)</b>	6.1 	6.1 	6.1 	6.1 
<b>14.4 Packing group</b>	III	III	III	III
<b>14.5 Environmental hazards</b>	No.	No.	No.	No.
<b>Additional information</b>	<b>Tunnel code</b> (E)	-	-	-

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.





## SECTION 14: Transport information

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**EU Regulation (EC) No. 1907/2006 (REACH)**

**Annex XIV - List of substances subject to authorisation**

**Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Other EU regulations**

**Europe inventory** : All components are listed or exempted.

**Seveso II Directive**

This product is controlled under the Seveso II Directive.

**Danger criteria**

**Category**

H2: Acute toxicity 2 any route of entry or Acute toxicity 3 Inhalation/Dermal route of entry  
E2: Hazardous to the aquatic environment - Chronic 2  
C2: Toxic  
C9ii: Toxic for the environment

**15.2 Chemical Safety Assessment** : This product contains substances for which Chemical Safety Assessments are still required.

## SECTION 16: Other information

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number  
vPvB = Very Persistent and Very Bioaccumulative

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





**SECTION 16: Other information**

Acute Tox. 2, H330  
 STOT RE 1, H372  
 Asp. Tox. 1, H304  
 Aquatic Chronic 2, H411

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Classification	Justification
Acute Tox. 2, H330 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	Calculation method Calculation method Calculation method Calculation method

<b>Full text of abbreviated H statements</b>	: H301 H304 H310 H315 H330 H372 H372 (central nervous system (CNS)) H372 (lungs)  H400 H410 H411	Toxic if swallowed. May be fatal if swallowed and enters airways. Fatal in contact with skin. Causes skin irritation. Fatal if inhaled. Causes damage to organs through prolonged or repeated exposure. Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS)) Causes damage to organs through prolonged or repeated exposure if inhaled. (lungs)  Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Toxic to aquatic life with long lasting effects.
--	---	--

<b>Full text of classifications [CLP/GHS]</b>	: Acute Tox. 1, H330 Acute Tox. 2, H310 Acute Tox. 2, H330 Acute Tox. 3, H301 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Aquatic Chronic 2, H411 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT RE 1, H372  STOT RE 1, H372 (central nervous system (CNS)) STOT RE 1, H372 (lungs) (inhalation)	ACUTE TOXICITY (inhalation) - Category 1 ACUTE TOXICITY (dermal) - Category 2 ACUTE TOXICITY (inhalation) - Category 2 ACUTE TOXICITY (oral) - Category 3 ACUTE AQUATIC HAZARD - Category 1 LONG-TERM AQUATIC HAZARD - Category 1 LONG-TERM AQUATIC HAZARD - Category 2 ASPIRATION HAZARD - Category 1 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) (inhalation) - Category 1
---	--	--

<b>Full text of abbreviated R phrases</b>	: R26- Very toxic by inhalation. R23- Toxic by inhalation. R24/25- Toxic in contact with skin and if swallowed. R48/23- Toxic: danger of serious damage to health by prolonged exposure through inhalation. R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation. R65- Harmful: may cause lung damage if swallowed. R38- Irritating to skin. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
---	---

<b>Full text of classifications [DSD/DPD]</b>	: T+ - Very toxic T - Toxic Xn - Harmful Xi - Irritant N - Dangerous for the environment
---	--





## SECTION 16: Other information

### History

**Date of issue (dd/mm/yyyy)** : 15/04/2015  
**Date of previous issue** : 15/07/2014  
**Version** : 2  
**Revised Section(s)** : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

