# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and

GHS

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#### Trade name: Rislone® Octane Booster (Contd. of page 1) Xi: Irritant R36/37/38: Irritating to eyes, respiratory system and skin. R10: Flammable. · Information concerning particular hazards for human and environment: The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version. Classification system: The classification is according to the latest editions of the EU-lists, and extended by company and literature data. The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company. · 2.2 Label elements · Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation. Hazard pictograms GHS02 GHS06 GHS08 · Signal word Danger - Hazard-determining components of labelling: Stoddard solvent tricarbonyl(methylcyclopentadienyl)manganese Hazard statements H226 Flammable liquid and vapour. H302 Harmful if swallowed. H331 Toxic if inhaled. H351 Suspected of causing cancer. H304 May be fatal if swallowed and enters airways. **Precautionary statements** P101 If medical advice is needed, have product container or label at hand. Keep out of reach of children. P102 P103 Read label before use. P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P281 Use personal protective equipment as required. P233 Keep container tightly closed. P264 Wash thoroughly after handling. P261 Avoid breathing mist/vapours/spray. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for P304+P340 breathing. P308+P313 IF exposed or concerned: Get medical advice/attention. (Contd. on page 3)

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(Contd. of page 2) P330 Rinse mouth. P331 Do NOT induce vomiting. P370+P378 In case of fire: Use for extinction: CO2, powder or water spray. P403+P235 Store in a well-ventilated place. Keep cool. · Hazard description: WHMIS-symbols: B3 - Combustible liquid D1A - Very toxic material causing immediate and serious toxic effects D2B - Toxic material causing other toxic effects · NFPA ratings (scale 0 - 4) Health = 2Fire = 2 Reactivity = 0 · HMIS-ratings (scale 0 - 4) HEALTH <sup>\*2</sup> Health = \*2 2 FIRE Fire = 2 Reactivity = 0 \* - Indicates a long term health hazard from repeated or prolonged exposures. HMIS Long Term Health Hazard Substances 12108-13-3 tricarbonyl(methylcyclopentadienyl)manganese 64742-94-5 Solvent naphtha (petroleum), heavy arom. 91-20-3 naphthalene · 2.3 Other hazards · Results of PBT and vPvB assessment · **PBT:** Not applicable. · vPvB: Not applicable. **3** Composition/information on ingredients · 3.2 Mixtures · Description: Mixture of substances listed below with nonhazardous additions. · Dangerous components: CAS: 8052-41-3 Stoddard solvent > 80% EINECS: 232-489-3 🗙 Xn R65 Index number: 649-345-00-4 Carc. Cat. 2, Muta. Cat. 2 🚸 Flam. Liq. 3, H226

🚸 Asp. Tox. 1, H304

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CAS: 64742-94-5 EINECS: 265-198-5	Solvent naphtha (petroleum), heavy arom.	< 10%
Index number: 649-424-00-3		
CAS: 95-63-6 EINECS: 202-436-9 Index number: 601-043-00-3	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; 🏪 N R51/53	< 10%
	<ul> <li>Flam. Liq. 3, H226</li> <li>Aquatic Chronic 2, H411</li> <li>Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335</li> </ul>	
CAS: 12108-13-3 EINECS: 235-166-5	tricarbonyl(methylcyclopentadienyl)manganese	1-3%
	Acute Tox. 3, H301; Acute Tox. 2, H310; Acute Tox. 1, H330 Carc. 2, H351 Aquatic Acute 1, H400	
CAS: 91-20-3 EINECS: 202-049-5 Index number: 601-052-00-2	naphthalene Xn R22-40; <b>½</b> N R50/53 Carc. Cat. 3	< 1,0%
	Carc. 2, H351 Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Acute Tox. 4, H302	

# 4 First aid measures

#### · 4.1 Description of first aid measures

#### · General information:

Immediately remove any clothing soiled by the product.

Remove breathing equipment only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

## • After inhalation:

Take affected persons into fresh air and keep quiet.

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

#### · After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

## · After eye contact:

Protect unharmed eye. Rinse opened eye for several minutes under running water. Remove contact lenses if worn, if possible. Rinse opened eye for several minutes under running water. Then consult a doctor. **After swallowing:** 

Rinse out mouth and then drink plenty of water.

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(Contd. of page 4) Do not induce vomiting; call for medical help immediately. A person vomiting while laying on their back should be turned onto their side. · 4.2 Most important symptoms and effects, both acute and delayed Coughing Dizziness Breathing difficulty Headache Gastric or intestinal disorders Disorientation · Hazards Danger of pulmonary oedema. Danger of impaired breathing. Danger of cerebral oedema. Danger of convulsion. Condition may deteriorate with alcohol consumption. 4.3 Indication of any immediate medical attention and special treatment needed If swallowed, gastric irrigation with added, activated carbon. If swallowed or in case of vomiting, danger of entering the lungs. Monitor circulation, possible shock treatment. Medical supervision for at least 48 hours. If necessary oxygen respiration treatment. Later observation for pneumonia and pulmonary oedema. Treat skin and mucous membrane with antihistamine and corticoid preparations. Do not administer preparations of the adrenalin-ephedrine-group. 5 Firefighting measures 5.1 Extinguishing media Suitable extinguishing agents: Alcohol resistant foam Fire-extinguishing powder Carbon dioxide Gaseous extinguishing agents Water haze or fog · For safety reasons unsuitable extinguishing agents: Water sprav Water with full iet 5.2 Special hazards arising from the substance or mixture During heating or in case of fire poisonous gases are produced. 5.3 Advice for firefighters · Protective equipment: Wear self-contained respiratory protective device. Wear fully protective suit.

· Additional information Cool endangered receptacles with water fog or haze.

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# 6 Accidental release measures

<ul> <li>6.1 Personal precautions, protective equipment and emergency procedures         Use respiratory protective device against the effects of fumes/dust/aerosol.         Wear protective equipment. Keep unprotected persons away.         Ensure adequate ventilation         Keep away from ignition sources.         Protect from heat.         Particular danger of slipping on leaked/spilled product.         6.2 Environmental precautions:         Inform respective authorities in case of seepage into water course or sewage system.         Do not allow to enter sewers/ surface or ground water.         6.3 Methods and material for containment and cleaning up:         Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust Dispose contaminated material as waste according to item 13.         6.4 Reference to other sections         See Section 7 for information on safe handling.         See Section 8 for information on personal protection equipment.         See Section 13 for disposal information.</li></ul>	t).
7 Handling and storage	
<ul> <li>7.1 Precautions for safe handling Open and handle receptacle with care. Prevent formation of aerosols. Keep away from heat and direct sunlight. Avoid splashes or spray in enclosed areas. Use only in well ventilated areas. </li> <li>Information about fire - and explosion protection:</li> <li>Keep ignition sources away - Do not smoke.</li> <li>Protect against electrostatic charges.</li> <li>Keep respiratory protective device available.</li> <li>Emergency cooling must be available in case of nearby fire.</li> </ul>	
<ul> <li>7.2 Conditions for safe storage, including any incompatibilities</li> <li>Storage:</li> <li>Requirements to be met by storerooms and receptacles: Store in a cool location. Provide ventilation for receptacles. Avoid storage near extreme heat, ignition sources or open flame.</li> <li>Information about storage in one common storage facility: Store away from foodstuffs. Store away from oxidizing agents. Do not store together with acids.</li> <li>Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles. Keep container tightly sealed.</li> </ul>	(Contd. on page 7)
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· 7.3 Specific end use(s) No further relevant information available.

# 8 Exposure controls/personal protection

· Additional information about design of technical facilities: No further data; see item 7.

# 8.1 Control parameters

<ul> <li>8.1 Control pa</li> </ul>	arameters	
· Ingredients w	ith limit values that require monitoring at the workplace:	
8052-41-3 Sto	ddard solvent	
PEL (USA)	2900 mg/m³, 500 ppm	
	Short-term value: C 1800* mg/m³ Long-term value: 350 mg/m³ *15-min	
TLV (USA)	525 mg/m³, 100 ppm	
	Short-term value: 580 mg/m³ Long-term value: 290 mg/m³	
EV (Canada)		
12108-13-3 tri	carbonyl(methylcyclopentadienyl)manganese	
	0,2 mg/m³ Skin	
	0,2 mg/m³ Skin	
EL (Canada)	0,2 mg/m³ Skin	
EV (Canada)	0,2 mg/m³ as manganese; Skin	
<ul> <li>PNECs No fur</li> </ul>	ther relevant information available. ther relevant information available. formation: The lists valid during the making were used as basis.	
General protection Keep away fro Immediately re Wash hands b Store protectiv Do not inhale of Avoid contact Respiratory p Use suitable re	ective equipment: ective and hygienic measures: m foodstuffs, beverages and feed. emove all soiled and contaminated clothing efore breaks and at the end of work. re clothing separately. gases / fumes / aerosols. with the eyes and skin.	(Contd. on page 8)
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· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

## Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

## Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

• Eye protection:

Contact lenses should not be worn.



Safety glasses

Body protection: Protective work clothing

- · Limitation and supervision of exposure into the environment
- No further relevant information available.

· Risk management measures

See Section 7 for additional information.

No further relevant information available.

9.1 Information on basic physical a General Information	and chemical properties	
Appearance:		
Form:	Liquid	
Colour:	Light yellow	
Odour:	Petroleum-like	
Odour threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	327 °F / 164 °C	

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Flash point:	115 °F / 46 °C
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	446 °F / 230 °C
Decomposition temperature:	Not determined.
Self-igniting:	Product is not self-igniting.
Danger of explosion:	Product is not explosive. However, formation of explosive ai vapour mixtures are possible.
Explosion limits:	
Lower:	1.1 Vol %
Upper:	6 Vol %
Vapour pressure:	Not determined.
Density at 20 °C:	0.78 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
water:	Not miscible or difficult to mix.
Partition coefficient (n-octanol/wa	ater): Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	Not determined.
Solids content:	Not determined.
9.2 Other information	No further relevant information available.

# 10 Stability and reactivity

- · 10.1 Reactivity
- 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided:
- No decomposition if used and stored according to specifications.
- · 10.3 Possibility of hazardous reactions
- Flammable.

Develops readily flammable gases/fumes.

Used empty containers may contain product gases which form explosive mixtures with air.

Can react violently with oxygen rich (oxidizing) material. Danger of Explosion.

Reacts with peroxides and other radical forming substances.

Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised.

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• **10.4 Conditions to avoid** Keep ignition sources away - Do not smoke.

Store away from oxidizing agents.

• 10.5 Incompatible materials: No further relevant information available.

- 10.6 Hazardous decomposition products:
- Hydrocarbons

Carbon monoxide and carbon dioxide Poisonous gases/vapours

Poisonous gases/vapours

## **11 Toxicological information**

11.1 Information on toxicological effects
 Acute toxicity

• Acute toxicity:

# · LD/LC50 values relevant for classification:

## 12108-13-3 tricarbonyl(methylcyclopentadienyl)manganese

Oral LD50 58 mg/kg (rat)

Dermal LD50 140 mg/kg (rabbit)

Inhalative LC50/4 h 0,076 mg/l (rat)

## · Primary irritant effect:

• on the skin: Irritant to skin and mucous membranes.

· on the eye: Irritating effect.

· Sensitization: No sensitizing effects known.

· Subacute to chronic toxicity:

Inhalation of concentrated vapours as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Toxic

Irritant

Vapours have narcotic effect.

• Acute effects (acute toxicity, irritation and corrosivity) Danger through skin adsorption.

· Repeated dose toxicity May cause damage to organs through prolonged or repeated exposure .

## **12 Ecological information**

- · 12.1 Toxicity
- Aquatic toxicity: The product contains materials that are harmful to the environment.
- 12.2 Persistence and degradability The product is partly biodegradale. Significant residuals remain.
- · 12.3 Bioaccumulative potential May be accumulated in organism
- 12.4 Mobility in soil No further relevant information available.
- · Ecotoxical effects:
- · Remark: Harmful to fish

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#### · Additional ecological information:

## · General notes:

This statement was deduced from the properties of the single components.

The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary

Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

## 12.5 Results of PBT and vPvB assessment

- · PBT: Not applicable.
- **vPvB:** Not applicable.

• 12.6 Other adverse effects No further relevant information available.

## **13 Disposal considerations**

#### · 13.1 Waste treatment methods

· Recommendation

Contact waste processors for recycling information.

Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

#### · Uncleaned packaging:

• Recommendation: Disposal must be made according to official regulations.

14.1 UN-Number	
· DOT · DOT	N/A Reclassified as combustible under US DOT regulatio 49CFR173.150(f) For shipments by ground only. N labeling required for single packages under 119 US ga / 450 L. Shipments by air or vessel use IATA or IMDO classifications as required. UN1993
14.2 UN proper shipping name	
· DOT · ADR	Reclassified as combustible under US DOT regulation 49CFR173.150(f) For shipments by ground only. Non- labeling required for single packages under 119 US guides / 450 L. Shipments by air or vessel use IATA or IMD classifications as required. 1993 FLAMMABLE LIQUID, N.O.S. (PETROLEU DISTILLATES)

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· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (PETROLEUN DISTILLATES)
<ul> <li>14.3 Transport hazard class(es)</li> </ul>	
· DOT	
· Class	N/A
ADR	
Class	3 (F1) Flammable liquids.
· Label	3
· IMDG, IATA	
· Class	3 Flammable liquids.
· Label	3
· 14.4 Packing group	
· DOT · ADR, IMDG, IATA	N/A
• 14.5 Environmental hazards:	
• 14.5 Environmental nazaros: • Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E, <u>S-E</u>
· 14.7 Transport in bulk according to Ann	
MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
ADR	
· Limited quantities (LQ)	5L
<ul> <li>Transport category</li> <li>Tunnel restriction code</li> </ul>	3 D/E
· UN "Model Regulation":	
	UN1993, FLAMMABLE LIQUID, N.O.S. (PETROLEUN DISTILLATES), 3, III

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5 Regulatory information	
<ul> <li>15.1 Safety, health and environmental regulations/legislation specific for the</li> <li>United States (USA)</li> <li>SARA</li> </ul>	substance or mixtur
· Section 355 (extremely hazardous substances):	
12108-13-3 tricarbonyl(methylcyclopentadienyl)manganese	
Section 313 (Specific toxic chemical listings):	
12108-13-3 tricarbonyl(methylcyclopentadienyl)manganese	
95-63-6 1,2,4-trimethylbenzene	
91-20-3 naphthalene	
• TSCA (Toxic Substances Control Act):	
All ingredients are listed.	
· Proposition 65 (California):	
· Chemicals known to cause cancer:	
91-20-3 naphthalene	
Chemicals known to cause reproductive toxicity for females:	
None of the ingredients is listed.	
$\cdot$ Chemicals known to cause reproductive toxicity for males:	
None of the ingredients is listed.	
Chemicals known to cause developmental toxicity:	
None of the ingredients is listed.	
· Carcinogenic Categories	
· EPA (Environmental Protection Agency)	
91-20-3 naphthalene	CBI
IARC (International Agency for Research on Cancer)	
91-20-3 naphthalene	2
• TLV (Threshold Limit Value established by ACGIH)	
91-20-3 naphthalene	A
NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed.	
· OSHA-Ca (Occupational Safety & Health Administration)	
None of the ingredients is listed.	
· Canada	
· Canadian Domestic Substances List (DSL)	
All ingredients are listed.	
· Canadian Ingredient Disclosure list (limit 0.1%)	
95-63-6 1,2,4-trimethylbenzene	
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#### Canadian Ingredient Disclosure list (limit 1%)

8052-41-3 Stoddard solvent

12108-13-3 tricarbonyl(methylcyclopentadienyl)manganese

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## **16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### · Relevant phrases

- H226 Flammable liquid and vapour.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H310 Fatal in contact with skin.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- 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.
- R10 Flammable.
- R20 Harmful by inhalation.
- R22 Harmful if swallowed.
- R25 Toxic if swallowed.
- R26/27 Very toxic by inhalation and in contact with skin.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R40 Limited evidence of a carcinogenic effect.
- R50 Very toxic to aquatic organisms.
- 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.
- R65 Harmful: may cause lung damage if swallowed.

#### Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association GHS: Globally Harmonized System of Classification and Labelling of Chemicals ACGIH: American Conference of Governmental Industrial Hygienists NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) DNEL: Derived No-Effect Level (REACH)

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PNEC: Predicted No-Effect Concentration (REACH) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent • **Sources** SDS Prepared by: ChemTel Inc. 1305 North Florida Avenue Tampa, Florida USA 33602-2902 Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573 Website: www.chemtelinc.com

