1. Name of the substance or mixture and the company

1.1 Relevant identified uses of the substance or mixture and uses advised against
VAICO No:
V60-1012

1.2 Details of the supplier of the safety data sheet

1.2.1 Manufacturer/Supplier:
VIEROL AG | Karlstrasse 19 | 26123 Oldenburg | Germany
Telefon +49 (0) 441 - 210 20 - 0 | Telefax +49 (0) 441 - 210 20 - 111

1.2.2. Responsible Department:
VIEROL AG | Karlstrasse 19 | 26123 Oldenburg | Germany
Telefon +49 (0) 441 - 210 20 - 0 | Telefax +49 (0) 441 - 210 20 - 111

1.3 Emergency telephone number:
Gift-Informationszentrum Nord (Göttingen)
Telefon +49 (0) 551/ 19240

2. Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) no1272/2008

Hazard class	hazard category	target organs	warnings
Aspiration hazard	category 1	-	H304
Chronic aquatic toxicity	category 3	-	H412

You will find the full text of the warnings listed in this section under section 16.

2.2. Label elements
Labelling in accordance with Regulation (EC) no 1272/2008:

Hazard symbols:

Signalword: Danger

Hazards:
H304 Can be fatal if swallowed and enters Airways.
H412 Toxic to aquatic life with long lasting effects.

Safety instructions

Prevention:	P273 avoid release into the environment.
Response:	P301 + P310 If swallowed: immediately call a poison center or doctor / physician. P331 induce vomiting
Storage:	P405 under closure kept.
Disposal:	P501 lead to contents/container of an approved waste disposal facility.

Additional marking:
EUH066 repeated exposure may cause skin dryness or cracking.

Hazard components for labelling:
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

2.3.Other risks
No other information available.

3. Composition/information on ingredients

3.1. substance/preparation:
Preparation of aliphatic hydrocarbons, glycols and additive

Hazardous ingredients	amount %	Classification Regulation EC No 1272/2008 Hazard class /. Risk category	 risk notes
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)			
EC number: 919-164-8	< 100	ASP. ToX. 1 Aquatic chronic 3	H304 H412
2-butoxy-ethanol CAS No.: 111-76-2	2-10	Acute Tox 4 Eye Irrit 2 Skin Irrit. 2	H332 H312 H302 H319

			H315
Methylcyclopentadienyl manganese tricarbonyl CAS: 12108-13-3	< 1	Acute Tox. 3, Acute Tox. 2, Acute Tox. 1, Skin Irrit. 2, STOT RE 1, Aquatic acute 1, Aquatic chronic 1,	H301 H310 H330 H315 H372i H400 H410
Polyolefin alkyl phenol alkyl amine Copyright	< 1	Skin Irrit. 2, Eye Irrit. 2,	H315 H319

4. First aid measures

4.1. Description of first aid measures

Move out of the danger area get general information. Take off all contaminated clothing immediately.
Bring after breathing in the fresh air. When shortness of breath oxygen therapy. If symptoms persist, seek medical attention.
Recovery position apply to unconsciousness and seek medical advice.
After contact with skin, wash immediately with SOAP and plenty of water. If symptoms persist, seek medical attention.
After eye contact immediately flush with plenty water for at least 5 minutes out, also under the eyelids. If eye irritation consult a specialist.
In case of ingestion induce no vomiting. Aspiration hazard! Immediately consult a doctor. Bring someone who is vomiting lying on his back in the recovery position.

4.2. Most important acute or delayed symptoms and effects

Symptoms include headache, dizziness, fatigue, nausea and vomiting symptoms of increased exposure. Inhalation may cause central nervous system depression and narcosis. Dries out the skin.
Effects risk of serious lung damage (in the case of aspiration). Aspiration can lead to pulmonary edema and pneumonia.

4.3. Indication of immediate medical attention and special treatment needed

Treatment During ingestion or vomiting risk of penetration into the lungs.

5. Fire-fighting measures

5.1. Extinguishing media:

Use suitable extinguishing media water fog, foam, dry chemical or carbon dioxide.
Unsuitable extinguishing agents water full Jet

5.2. Special hazards of the substance or mixture

Specific risks associated with flammable liquid. Vapours may form explosive mixtures with air. The fire-fighting product floating on water and does not come off. Incomplete combustion can cause the formation of toxic
Pyrolysis products lead. In case of fire the following can be released: oxides of carbon.

5.3 Instructions for fire-fighting

Self-contained breathing apparatus wearing special protection from fire. Equipment for the wear suitable protective clothing (full protective suit).
Fire-fighting
Cool more information closed containers exposed to fire with water spray. Contaminated firefighting water collected separately, must not enter the sewer system.

6. Accidental release

6.1. Personal precautions, protective equipment and procedures to be applied in case of emergency

Personal protective equipment and procedures to be applied in case of an emergency.
Wear personal protection precautions.

6.2. Environmental protection measures

Get environmental protection measures not into surface water or drains. Avoid penetration into the ground. The contamination of water or sewer use inform the competent authorities. Penetration into the ground inform responsible authorities.

6.3. Methods and materials for containment and cleaning

Methods and materials to ensure adequate ventilation. With Liquid-binding material (sand, Containment and cleaning: diatomaceous earth, acid Binder, universal binder) record. Large burial to be captured mechanically to the disposal (to be removed by pumping).
The recorded material in accordance with section disposal handle more information.

6.4. Reference to other sections

Personal protective equipment, see section 8.

7. Handling and storage

7.1. Precautions for safe handling

Keep instructions for safe handling containers tightly closed. Avoid inhalation of vapors or mists. Ensure adequate air exchange for handling and/or exhaust in work rooms.

Hygiene measures take off immediately all contaminated clothing.
Do not breathe gas/fumes/vapor/spray. Avoid contact with skin and eyes. Keep away from foodstuffs, beverages and feed. At work do not eat, drink and smoke. Wash hands before breaks and at end of work.

7.2. Conditions for safe storage, including any incompatibilities
Requirements: keep only in the original container. ·
Storage areas and containers
Indication for combined storage: Not required.
Further information about storage conditions:
Cool and dry place in tightly sealed containers.
Storage class:
Classification according to operational safety Ordinance
Germany (BetrSichV):

7.3. Specific end-uses
Specific use (s) no information available.

8. Exposure controls / personal protection

8.1. Parameters to be monitored
(Additional) Information: Components with workplace-related limits to be monitored:
Ingredient: C9 - C15 Aliphatics < 95%
Other occupationnel exposure limit values: TRGS 900, AGW: 600 mg / m3, (2(II))
Hydrocarbon mixtures, used as a solvent (solvent hydrocarbons), additive-free
Ingredient: 2-butoxy-ethanol CAS No. 111-76-2 < 10%
TRGS 900, skin designation: can be absorbed through the skin.
TRGS 900, AGW: 20 ppm, 98 mg / m3, (4)
A risk of damage to fruit needs while keeping the workplace limit (AGW) and the biological limit value (BGW) fears not to be (see paragraph 2.7)
EU ELV, time weighted average (TWA): 20 ppm, 98 mg / m3 indicative
EU ELV, short-term exposure limit (STEL): 50 ppm, 246 mg / m3 indicative
Substance: Methyl cyclopentadienyl manganese tricarbonyl < 1%
EH40 (UK) (Europe, 2002). Absorbed through the skin.
TWA: 0.2 mg / m ³ 8 hour (s).
STEL: 0.6 mg / m ³ 15 minute (s).

8.2. Limitation and exposure controls
Personal protective equipment
Respiratory protection
Note: Required if limit values are exceeded. Required, if vapors and aerosols. Use self-contained breathing apparatus when intense or prolonged exposure. For short-term or low pollution use respiratory filter device use.
Combination filter: A-P2
Personal protective measures
Eye protection is to be regarded as a minimum level of protection. Safety glasses with visor may be required depending on the amount of substance and conditions of use. Flue or other technical systems use to maintain the respective air limits.
Hand protection: Hand protection: wear chemical resistant gloves. Nitrile gloves have an estimated breakthrough time 480 minutes or less with a minimum thickness of 0.4 mm, when they often come into contact with the product. Due to variable exposure conditions, the user must observe, that the practical use of chemical-resistant gloves in
Reality can be much shorter than the above breakthrough time. The usage guidelines of the manufacturer, in particular regarding the strength and minimum breakthrough time is required. This information replace suitability testing on behalf of the end user, because the protective gloves depends on the conditions, under which the product is used.
Body protection: Predictable contact, chemical-resistant gloves, are a chemical resistant
Suit and boots to wear. Special items of clothing must be created depending on the operation.
Other skin protection: Notapplicable.
Respiratory protection: Possible exceeding of the limits is to use a suitable respirator.
The environmental exposure controls: Emissions from ventilation and process equipment should be checked to make sure that they meet the requirements of environmental protection laws. In some cases, exhaust air scrubbers, filters or technical changes to the process equipment will be required to reduce emissions to acceptable levels.

9. Physical and chemical properties

9.1. Information about the fundamental physical and chemical properties
Form: liquid
Color: colorless, slightly yellowish
Odor: gasoline-like
State change value unit
Melting point/melting range: < 20 ° C
Boiling point/boiling range: 156-230 ° C
Flash point: > 61 ° C
Ignition temperature: > 200 ° C
Auto-flammability: The product is not self-igniting
Risk of explosion: The product is not explosive, but the education is an explosive, vapor / air mixtures possible
Explosion limits: lower: 0.6 vol. % upper: 7 vol. %
Vapor pressure (20 ° C): < 5 hPa, hPa at 50 ° C 4
Density (20 ° C): 0.78 0,830 kg / l
Solubility in / miscibility with water: < 50 g / l
Ph: not applicable

More information: Benzene content: < 0.005% (G.C..)

9.2 Other information
No more information available

10. Stability and reactivity

10.1. Reactivity
Note No decomposition if proper storage and application.

10.2. Chemical stability
Note stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
Dangerous reactions: The formation of potentially explosive vapor / air mixtures is possible. Self-ignition is possible in contact with such as soiled clothes, textiles or similar.

10.4 Conditions to avoid
To avoid keep away from heat and sources of ignition. Protect from direct sunlight.
Conditions
Thermal decomposition no data available.

10.5. Incompatible materials
Materials to avoid strong oxidizing agents

10.6. Hazardous decomposition products
Dangerous no dangerous decomposition products known.
Decomposition products

11. Toxicological information

11.1. Data on the toxicological effects

Irritation
Skin
Result: Continuous skin contact can lead to degreasing the skin and dermatitis.
Eyes
Result: Causes eye discomfort, but no damage of the eye tissue.
Awareness-raising
Result: No sensitizing effects known.
More information
Experiences with the smallest quantities, exposure when swallowed or subsequent vomiting in the lung
People: reach, can lead to pulmonary edema or inflammation of the lungs.

Ingredient: hydrocarbons, n-alkanes, C10-C13 isoalkanes, cyclics, aromatics (< 95%)
Acute toxicity
Oral LD50: > 5000 mg / kg (rat) (OECD Test guideline 401)
Skin
LD50: > 2920 mg / kg (rat) (OECD Test guideline 402)

Ingredient: 2-butoxy-ethanol CAS No. 111-76-2 (< 10%)
Acute toxicity
Oral LD50: 1746 mg / kg (rat)
Take a breath
Harmful if inhaled.
Skin
LD50: 2270 mg / kg (rabbit)
Irritation
Skin
Result: skin irritation (rabbit)
Eyes
Result: irritating to eyes. (Rabbit) (Directive 67/548/EEC, annex V, B. 5.)
Awareness-raising
Result: non-sensitizing (Guinea pig) (maximization test)

Ingredient: Methylcyclopentadienyl manganese tricarbonyl (< 1%)
LC50 inhalation steam rat 0.247 ppm 1 hours
LD50 dermal rabbit 140 mg / kg
LD50 Oral rat 58 mg / kg

12. Ecological information

12.1 Toxicity
Ingredient: cyclics, hydrocarbons, C10-C13, n-alkanes, isoalkanes, aromatics (100%)
Acute toxicity

Fish

LL50: 10-100 mg / l (Oncorhynchus mykiss (rainbow trout), 96 h) (toxicity to fish)
Based on test results or data of a comparable product.

Toxicity to Daphnia and other aquatic invertebrates.

10-22 mg / l (Daphnia magna (water flea); 48 hours)
(Daphnia toxicity)
Based on test results or data of a comparable product.

Algae

EL50: 50-100 mg / l (Pseudokirchneriella subcapitata (green algae), 72 h) (toxicity to algae)
Based on test results or data of a comparable product.
NOELR: 3 mg / l (Pseudokirchneriella subcapitata (green algae), 72 h)

Ingredient: 2-butoxy-ethanol CAS No. 111-76-2

Acute toxicity

Fish

LC50: 1490 mg / l (Lepomis macrochirus; 96 h) **toxicity to Daphnia and other aquatic invertebrates.**
EC50: 1720 mg / l (Daphnia, 24 h)

Algae

EC0: 900 mg / l (scenedesmus quadricauda; 168 h) (Zellvermehrungshemmtest)

Bacteria

EC0: 700 mg / l (Pseudomonas putida; 16 h)

12.2. Persistence and degradability
Ingredient: cyclics, hydrocarbons, C10-C13, n-alkanes, isoalkanes, aromatics (100%)

Persistence

Result: The product swims on water and does not come off.
The product evaporates slowly.

Biological degradability

Result: Easy biodegradable

Persistence

Result: Faster degradation in the air.

Ingredient: 2-butoxy-ethanol CAS No. 111-76-2

Persistence and degradability

Persistence

Result: No data available

Degradability Biological degradability

Result: 100% (exposure time: 28 d)(Zahn-Wellens Test;) EC 88/302) easily biodegradable

12.3. Bio accumulative potential
Ingredient: cyclics, hydrocarbons, C10-C13, n-alkanes, isoalkanes, aromatics (100%)

Bio-accumulation

No data available.

Ingredient: 2-butoxy-ethanol CAS No. 111-76-2

Bio-accumulation

Result: No bioaccumulation.

12.4. Mobility in soil
Ingredient: cyclics, hydrocarbons, C10-C13, n-alkanes, isoalkanes, aromatics (100%)

Mobility

Soil: The product is easily volatile.
Water: The product swims on water and does not come off.

Ingredient: 2-butoxy-ethanol CAS No. 111-76-2

Mobility

Result: No data available

12.5 results of PBT and vPvB assessment
Ingredient: cyclics, hydrocarbons, C10-C13, n-alkanes, isoalkanes, aromatics (100%)
Result: This substance is not considered to be persistent, bio-accumulative still toxic (PBT).
Substance is not considered to be very persistent as very bio-accumulative.

Ingredient: 2-butoxy-ethanol CAS No. 111-76-2
Results of the PBT and vPvB assessment
Result: This substance is not as (PBT) considered., this substance is persistent, bio-accumulative still toxic neither considered to be very persistent as very bio-accumulative (vPvB).

12.6 other adverse effects
Other ecological information
Allow result: Do not enter into surface water or drains.

13 Disposal considerations

13.1. Procedures for waste management
Recommendation

Disposal in accordance with the local regulations.
Disposal of uncleaned packaging and recommended cleaning agents
Remains empty. Empty containers do not incinerate or edit with a cutting torch. Risk of explosion. Empty containers in an approved waste disposal plant feed for the purpose of recovery or disposal.

14 Transport information

14.1 UN number Classified as dangerous goods

14.2 UN proper shipping name Classified as dangerous goods

14.3 transport hazard classes Classified as dangerous goods

14.4 packaging group Classified as dangerous goods

14.5 environmental hazards Classified as dangerous goods

14.6 special precautions for user No dangerous goods in the meaning of transport regulations.

14.7 transport in bulk according to annex II of the MARPOL Convention 73/78 and the IBC Code
Not applicable to product delivery.

14.7 transport in bulk according to annex II of the MARPOL Convention 73/78 and the IBC Code
IMDG: eliminates

15 Regulatory information

15.1. Safety, health and environmental protection / specific legislation for the substance or the mixture
National regulations:
Water hazard class: Water hazard class 2 (self-assessment): hazardous for water.
Classification according to operational safety Ordinance
Germany (BetrSichV).

15.2. Chemical safety assessment
No data are available for this product.

16. Other information

Full text of the warnings in section 2 and 3.
H226 flammable liquid and vapor.
H301 toxic if swallowed.
H302 harmful if swallowed.
H304 can 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 by inhalation.
H335 can irritate the respiratory tract.
H335 + H336 can irritate the respiratory tract. May cause drowsiness or dizziness.
H336i can cause drowsiness and dizziness.
H351 can probably cause cancer.
H372i damages the organs from prolonged or repeated exposure by inhalation.
H373i can damage the organs by prolonged or repeated exposure through inhalation.
H400 very toxic to aquatic organisms.
H410 very toxic to aquatic life with long lasting effects.
H411 toxic to aquatic organisms with long-term effect.

More information.
The information contained in this safety data sheet based on the State of our knowledge at the time of the revision, and serve to describe our products in terms of safety precautions to be taken. They represent no assurance of characteristics of the described product and any product information or product specification and shall establish a contractual relationship. The information contained in the safety data sheet are not transferable to other products. As far as in this safety data sheet called product with other materials is blended, mixed or processed, or undergoes a transcription, the information in this safety data sheet, unless it expressly otherwise stated, not on the new material can be transferred.

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