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Version number 2 Revision: 07.01.2020

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

· 1.1 Product identifier

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- · Trade name: Hengst Octane Booster
- · Article number: 30609,174
- · **UFI**: 0C60-M0UK-M005-SDJX
- 1.2 Relevant identified uses of the substance or mixture and uses advised against No further relevant information available.
- · Application of the substance / the mixture Additive
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Hengst SE Nienkamp 55-85 48147 Münster Germany

T +49 (0)251 20 20 2-0 *F* +49 (0)251 20 20 2-646

- · Further information obtainable from: oil@hengst.com
- · 1.4 Emergency telephone number:

Informationszentrale gegen Vergiftungen Uni - Klinikum Bonn; Notfall - Nr.: +49 228 19 240

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Repr. 2	H361d	Suspected of damaging the unborn child.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.
Asp. Tox. 1	H304	May be fatal if swallowed and enters airways.



Acute Tox. 4	H332	Harmful if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.

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STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· 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

GHS07

· Signal word Danger

· Hazard-determining components of labelling:

xylene

toluene

· Hazard statements

H225 Highly flammable liquid and vapour.

H332 Harmful if inhaled. H315 Causes skin irritation.

H319 Causes serious eye irritation.

Suspected of damaging the unborn child. H361d

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness. H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways. H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

P260 Do not breathe mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P331 Do NOT induce vomiting.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container to Problemabfallentsorgung

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· **PBT**: Not applicable.

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· vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- · 3.2 Mixtures
- · Description: Mixture of substances listed below with nonhazardous additions.
- · Dangerous components:

CAS: 1634-04-4 tert-butyl methyl ether 25-50%

Index number: 603-181-00-X

CAS: 1330-20-7 xylene 25-50%

Index number: 601-022-00-9 Skin Irrit. 2, H315

CAS: 108-88-3 toluene 10-25%

Index number: 601-021-00-3 Ťox. 1, H304; (1) Skin Irřit. 2, H315; STOT SE 3, H336

 $Poly(oxy(1,2\text{-}butanediyl)), \ .alpha.-(3\text{-}aminopropyl)\text{-}.gamma.-hydroxy-} \leq 2.5\%$

, C11-14-isoalkyl ethers, C13-rich (Polyetheramine)

Aquatic Chronic 2, H411

• Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information:

Take affected persons out into the fresh air.

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

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

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

· After skin contact:

Soak up clothes, even underwear, shoes and stockings, take off immediately.

Then rinse with: water and soap.

Immediately wash with water and soap and rinse thoroughly.

- · After eye contact: Seek medical treatment.
- · After swallowing: If symptoms persist consult doctor.
- · 4.2 Most important symptoms and effects, both acute and delayed

Frequent and prolonged skin contact may cause skin irritation.

Eye irritation: irritation possible.

After swallowing: Harmful: may cause lung damage if swallowed.

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

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· 4.3 Indication of any immediate medical attention and special treatment needed Warning of aspiration hazard.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water.
- · For safety reasons unsuitable extinguishing agents: Water with full jet
- · 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Emergence of dangerous decomposition products possible.

Do not inhale explosion or combustion gases.

Carbon dioxide (CO2)

- · 5.3 Advice for firefighters
- · Protective equipment:

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

· Additional information

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Keep people at a distance and stay on the windward side.

· 6.2 Environmental precautions:

Suppress gases/fumes/haze with water spray.

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

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:

Prevent expansion (eg by damming or oil barrier).

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· 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.

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SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Avoid contact with eyes and skin.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

No special measures required.

- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles:

Keep container tightly closed and store in a cool, well-ventilated place. Store in a cool location.

- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Storage in a collecting room is required.

· 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · 8.1 Control parameters
- · Ingredients with limit values that require monitoring at the workplace:

CAS: 1634-04-4 tert-butyl methyl ether

IOELV Short-term value: 367 mg/m³, 100 ppm Long-term value: 183.5 mg/m³, 50 ppm

CAS: 1330-20-7 xylene

IOELV Short-term value: 442 mg/m³, 100 ppm Long-term value: 221 mg/m³, 50 ppm

Skin

CAS: 108-88-3 toluene

IOELV Short-term value: 384 mg/m³, 100 ppm Long-term value: 192 mg/m³, 50 ppm

Skin

- · Additional information: The lists valid during the making were used as basis.
- · 8.2 Exposure controls
- · Appropriate engineering controls No further data; see item 7.

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- · Individual protection measures, such as personal protective equipment
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· Hand protection



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Butyl rubber, BR

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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- · Not suitable are gloves made of the following materials: Leather gloves
- · Eye/face protection



Tightly sealed goggles

· Body protection: Wear suitable protective clothing when working.

SECTION 9: Physical and chemical properties

- · 9.1 Information on basic physical and chemical properties
- · General Information

· Colour:

Transparent

· Odour:

Mineral-oil-like

· Odour threshold:

Not determined.

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Safety data sheet

according to 1907/2006/EC, Article 31

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· Melting point/freezing point: Undetermined.

· Boiling point or initial boiling point and boiling

range Undetermined. • Flammability Not applicable.

· Lower and upper explosion limit

Lower: 1.1 Vol % (DIN EN 1839)
 Upper: 8.4 Vol % (DIN EN 1839)
 Flash point: -5 °C (DIN ISO 2592)
 Auto-ignition temperature: Not determined.
 Decomposition temperature: Not determined.
 pH Not determined.

· Viscosity:

Kinematic viscosityDynamic:Not determined.Not determined.

· Solubility

• water: Not miscible or difficult to mix.

Partition coefficient n-octanol/water (log value)
 Vapour pressure at 20 °C:

Not determined.
268 hPa

· Density and/or relative density

• Density at 20 °C: 0.815 g/cm³ (DIN 51757)

Relative density
Vapour density
Not determined.
Not determined.

· 9.2 Other information

· Appearance:

· Form: Fluid

· Important information on protection of health and

environment, and on safety.

• Ignition temperature: 460 °C (DIN 14522)

• Explosive properties: Product is not explosive. However, formation of

explosive air/vapour mixtures are possible.

· Solvent content:

• Organic solvents: 102.0 %
 • Solids content: 10.0 %

· Change in condition

· Softening point/range

• Pour point undeterminated
• Evaporation rate Not determined.

· Information with regard to physical hazard classes

Explosives Void
Flammable gases Void
Aerosols Void
Oxidising gases Void
Gases under pressure Void

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· Flammable liquids

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Highly flammable liquid and vapour.

· Flammable solids	Void
· Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable	
gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · 10.3 Possibility of hazardous reactions Reacts with strong oxidising agents.
- · 10.4 Conditions to avoid

Heat sources (flash over temperature), sparks, ignition points, open flames, static electricity.

· 10.5 Incompatible materials:

Oxidant. Acid, concentrated.

Alkalis (alkalis), concentrated.

· 10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

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

Harmful if inhaled.

· LD/LC50 values relevant for classification:

CAS: 1634-04-4 tert-butyl methyl ether

Oral LD50 4,000 mg/kg (rat)

Dermal LD50 1,000 mg/kg (rabbit)

Inhalative LC50/4 h 142 mg/l (rat)

CAS: 1330-20-7 xylene

Oral LD50 4,300 mg/kg (rat)
Dermal LD50 2,000 mg/kg (rabbit)

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CAS: 108-88-3 toluene

Oral LD50 5,000 mg/kg (rat)
Dermal LD50 12,124 mg/kg (rabbit)
Inhalative LC50/4 h 5,320 mg/l (mouse)

· Skin corrosion/irritation

After skin contact: Frequent and constant skin contact can cause skin irritation.

Eye irritation: Irritant effect possible.

After swallowing:

Harmful: may cause lung damage if swallowed.

· Serious eye damage/irritation

Causes serious eye irritation.

- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity

Suspected of damaging the unborn child.

· STOT-single exposure

May cause respiratory irritation. May cause drowsiness or dizziness.

· STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

· Aspiration hazard

May be fatal if swallowed and enters airways.

- · 11.2 Information on other hazards
- · Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- · 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential

Floats on the water.

Low bioaccumulation potential.

- · 12.4 Mobility in soil No further relevant information available.
- · 12.5 Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.
- 12.6 Endocrine disrupting properties For information on endocrine disrupting properties see section 11.
- · 12.7 Other adverse effects
- · Remark: Harmful to fish

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- · Additional ecological information:
- · General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water Do not allow product to reach ground water, water course or sewage system. Harmful to aquatic organisms

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must be specially treated adhering to official regulations.

Agree exact waste code with the waste disposal company.

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Delivery of waste oil to offically authorised collectors only.

- · Uncleaned packaging:
- · Recommendation:

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning. Do not perforate, cut up or weld uncleaned containers. (Danger of explosion).

SECTION 14: Transport information

- · 14.1 UN number or ID number
- · ADR, IMDG, IATA UN1993
- · 14.2 UN proper shipping name
- · ADR 1993 ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G.

(METHYL-tert-BUTYLETHER, TOLUEN)

· IMDG, IATA FLAMMABLE LIQUID, N.O.S. (METHYL tert-BUTYL

ETHER, TOLUENE)

- · 14.3 Transport hazard class(es)
- · ADR, IMDG, IATA



· Class 3 Flammable liquids.

· Label 3

· 14.4 Packing group

· ADR, IMDG, IATA

· 14.5 Environmental hazards:

· Marine pollutant:

• 14.6 Special precautions for user Warning: Flammable liquids.

· Hazard identification number (Kemler code): 33

• EMS Number: F-E,S-E

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Safety data sheet

according to 1907/2006/EC, Article 31

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· Stowage Category

· 14.7 Maritime transport in bulk according to IMO

instruments Not applicable.

· Transport/Additional information:

 $\cdot ADR$

Limited quantities (LQ)
 Excepted quantities (EQ)
 1L
 Code: E2

Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

· Transport category 2 · Tunnel restriction code D/E

· IMDG

· Limited quantities (LQ)
 · Excepted quantities (EQ)
 IL
 Code: E2

Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation": UN 1993 FLAMMABLE LIQUID, N.O.S. (METHYL

TERT-BUTYL ETHER, TOLUENE), 3, II

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

· Hazard pictograms







GHS02

GHS07

GHS0

- · Signal word Danger
- · Hazard-determining components of labelling:

xylene toluene

· Hazard statements

H225 Highly flammable liquid and vapour.

H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

H361d Suspected of damaging the unborn child.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

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H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.
 H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking.

P260 Do not breathe mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P331 Do NOT induce vomiting.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container to Problemabfallentsorgung

- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · Seveso category P5c FLAMMABLE LIQUIDS
- · Qualifying quantity (tonnes) for the application of lower-tier requirements 5.000 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 50.000 t
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 48
- · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 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

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H332 Harmful if inhaled.
- H336 May cause drowsiness or dizziness.
- H361d Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H411 Toxic to aquatic life with long lasting effects.
- · Department issuing SDS: Product safety
- · Version number of previous version: 1

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· Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids - Category 3

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity - Category 4

Skin Irrit. 2: Skin corrosion/irritation - Category 2

Eye Irrit. 2: Serious eye damage/eye irritation - Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Asp. Tox. 1: Aspiration hazard - Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard - Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3

· Sources Concawe Product Dossier No.97/108. Concawe Product Dossier Nn. 01/54.



