

Safety Data Sheet

acc. to OSHA, Appendix D to § 1910.1200

True North Chemicals Orange Degreaser

Version number: GHS 7.0
Replaces version of: 2015-06-22 (GHS 6)

revision: 2016-10-25

SECTION 1: Identification

1.1 Product identifier

Trade name

True North Chemicals Orange Degreaser

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

Relevant identified uses

cleaner/degreaser

1.3 Details of the supplier of the safety data sheet

DSI Automotive Products

1271 Fayland Dr

Fargo, ND 58078

United States

Telephone: 1.800.437.4621

e-mail: dsi@dsiautomotive.com

Website: dsiautomotive.com

1.4 Emergency telephone number

Emergency information service

USA 1.800.535.5053, INTL 1.352.323.3500
24 hour emergency telephone number.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Annex	Hazard class and category	Hazard statement code(s)
B.6	flammable liquid	Cat. 3 (Flam. Liq. 3) H226
A.2	skin corrosion/irritation	Cat. 2 (Skin Irrit. 2) H315
A.3	serious eye damage/eye irritation	Cat. 1 (Eye Dam. 1) H318
A.4S	skin sensitization	Cat. 1A (Skin Sens. 1A) H317

Remarks

For full text of H-phrases: see SECTION 16.

Hazards not otherwise classified

Harmful to aquatic life with long lasting effects (GHS category 3: aquatic toxicity - acute and chronic).

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word danger

Pictograms

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GHS02, GHS05,
GHS07



Hazard statements

H226 Flammable liquid and vapor.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.

Precautionary statements

Precautionary statements - prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/eye protection/face protection.

Precautionary statements - response

IF ON SKIN: Wash with plenty of water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.

Precautionary statements - storage

Store in a well-ventilated place. Keep cool.

Precautionary statements - disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous ingredients for labelling

orange oil, EDTA, anhydrous

2.3 Other hazards

There is no additional information.

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SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Hazard class and category		Hazard statement
ethylene glycol monobutyl ether	CAS No 111-76-2	1 - < 5	B.6 A.10 A.1D A.1I A.2 A.3	Flam. Liq. 4 Acute Tox. 4 Acute Tox. 4 Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2A	H227 H302 H312 H332 H315 H319
sodium metasilicate, anhydrous	CAS No 6834-92-0	1 - < 5	A.10 A.2 A.8R	Acute Tox. 4 Skin Corr. 1B STOT SE 3	H302 H314 H335
sodium dodecylbenzenesulfonate	CAS No 25155-30-0	1 - < 5	A.10	Acute Tox. 4	H302
orange oil	CAS No 8028-48-6	1 - < 5	B.6 A.2 A.4S A.10	Flam. Liq. 3 Skin Irrit. 2 Skin Sens. 1A Asp. Tox. 1	H226 H315 H317 H304
EDTA, anhydrous	CAS No 64-02-8	1 - < 5	A.10 A.1I A.3 A.9	Acute Tox. 4 Acute Tox. 4 Eye Dam. 1 STOT RE 2	H302 H332 H318 H373
Propan-2-ol	CAS No 67-63-0	< 1	B.6 A.3 A.8D	Flam. Liq. 2 Eye Irrit. 2A STOT SE 3	H225 H319 H336

For full text of abbreviations: see SECTION 16. Exact percentage of ingredients is withheld as a trade secret.

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SECTION 4: First-aid measures

4.1

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

Following eye contact

Irrigate copiously with clean, fresh water, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, alcohol resistant foam, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage (sawdust, kieselgur (diatomite), sand, universal binder).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal precautions: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Never add water to this product. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools.

Warning

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air. Vapors may form explosive mixtures with air.

Handling of incompatible substances or mixtures

Do not mix with acids.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

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7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

• Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

• Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

Incompatible substances or mixtures

Observe compatible storage of chemicals.

Control of the effects

Protect against external exposure, such as
frost

Consideration of other advice

Ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to DOT) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Source
US	2-butoxyethanol	111-76-2	PEL	50	240			29 CFR OSHA
US	isopropyl alcohol	67-63-0	PEL	400	980			29 CFR OSHA

Notation

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified.
TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average.

Relevant DNELs/DMELs/PNECs and other threshold levels

No data available.

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

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Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	orange
Odor	citrus

Other physical and chemical parameters

pH (value)	13.34 (25 °C) (base)
Melting point/freezing point	not determined
Initial boiling point and boiling range	100 °C
Flash point	60 °C at 101.3 kPa 140 °F at 1 atm (closed cup)
Evaporation rate	not determined
Flammability (solid, gas)	not relevant (fluid)
Explosive limits	not determined
Vapor pressure	31.69 hPa at 25 °C
Density	1 g/cm ³ at 25 °C
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient	
n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	230 °C
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

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SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s): risk of ignition

• **if heated**

risk of ignition

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

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

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Physical stresses which might result in a hazardous situation and have to be avoided

strong shocks

10.5 Incompatible materials

There is no additional information.

Release of flammable materials with

light metals (due to the release of hydrogen in an acid/alkaline medium)

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	ATE
ethylene glycol monobutyl ether	111-76-2	oral	1746 mg/kg
ethylene glycol monobutyl ether	111-76-2	dermal	1100 mg/kg
ethylene glycol monobutyl ether	111-76-2	inhalation: vapor	11 mg/l/4h
sodium metasilicate, anhydrous	6834-92-0	oral	1280 mg/kg
sodium dodecylbenzenesulfonate	25155-30-0	oral	438 mg/kg

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Name of substance	CAS No	Exposure route	ATE
EDTA, anhydrous	64-02-8	oral	1913 mg/kg
EDTA, anhydrous	64-02-8	inhalation: dust/mist	1.5 mg//4h

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

May cause an allergic skin reaction.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant.

Carcinogenicity

- National Toxicology Program (United States): none of the ingredients are listed
- IARC Monographs

Name of substance	Name acc. to inventory	CAS No	wt%	Classification	Remarks	Number
ethylene glycol monobutyl ether	2-Butoxyethanol	111-76-2	3.702	3		Volume 88
Propan-2-ol	Isopropyl alcohol	67-63-0	0.871	3		Volume 15, Sup 7, 71

Legend

3 Not classifiable as to carcinogenicity in humans.

Specific target organ toxicity (STOT)

Shall not be classified as a specific target organ toxicant.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute)

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
ethylene glycol monobutyl ether	111-76-2	LC50	1474 mg/l	fish	96 h
ethylene glycol monobutyl ether	111-76-2	EC50	1550 mg/l	aquatic invertebrates	48 h
ethylene glycol monobutyl ether	111-76-2	ErC50	1840 mg/l	algae	72 h

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Name of substance	CAS No	Endpoint	Value	Species	Exposure time
EDTA, anhydrous	64-02-8	LC50	121 mg/l	fish	96 h
Propan-2-ol	67-63-0	LC50	10000 mg/l	fish	96 h

Aquatic toxicity (chronic)

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
ethylene glycol monobutyl ether	111-76-2	EC50	297 mg/l	aquatic invertebrates	21 d
EDTA, anhydrous	64-02-8	EC50	625 mg/l	aquatic invertebrates	24 h
Propan-2-ol	67-63-0	LC50	>10000 mg/l	aquatic invertebrates	24 h

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time
ethylene glycol monobutyl ether	111-76-2	carbon dioxide generation	18.3 %	3 d
orange oil	8028-48-6	oxygen depletion	3 %	28 d
orange oil	8028-48-6	DOC removal	96 %	28 d
Propan-2-ol	67-63-0	oxygen depletion	53 %	5 d

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
ethylene glycol monobutyl ether	111-76-2		0.81 (pH value: 7, 25 °C)	
orange oil	8028-48-6		5.6 (pH value: 6.5, 25 °C)	
EDTA, anhydrous	64-02-8	1.8		

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

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12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

- | | | |
|------|--|--|
| 14.1 | UN number | 2920 |
| 14.2 | UN proper shipping name
Technical name (hazardous constituents) | Corrosive liquid, flammable, n.o.s.
sodium metasilicate, anhydrous |
| 14.3 | Transport hazard class(es)
Class
Subsidiary risk(s) | 8 (corrosive substances)
3 (flammability) |
| 14.4 | Packing group | II (substance presenting medium danger) |
| 14.5 | Environmental hazards | none (non-environmentally hazardous acc. to the dangerous goods regulations) |
| 14.6 | Special precautions for user
There is no additional information. | |
| 14.7 | Transport in bulk according to Annex II of MARPOL and the IBC Code
The cargo is not intended to be carried in bulk. | |

Information for each of the UN Model Regulations

• Transport of dangerous goods by road or rail (49 CFR US DOT)

- | | |
|----------------------|-------------------------------------|
| Index number | 2920 |
| Proper shipping name | Corrosive liquid, flammable, n.o.s. |
| Class | 8 |
| Packing group | II |
| Danger label(s) | 8+3 |

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Special provisions (SP) B2, IB2, T11, TP2, TP27

ERG No 132

• **International Maritime Dangerous Goods Code (IMDG)**

UN number 2920

Proper shipping name CORROSIVE LIQUID, FLAMMABLE, N.O.S.

Class 8

Subsidiary risk(s) 3

Packing group II

Danger label(s) 8+3



Special provisions (SP) 274

Excepted quantities (EQ) E2

Limited quantities (LQ) 1 L

EmS F-E, S-C

Stowage category C

• **International Civil Aviation Organization (ICAO-IATA/DGR)**

UN number 2920

Proper shipping name Corrosive liquid, flammable, n.o.s.

Class 8

Subsidiary risk(s) 3

Packing group II

Danger label(s) 8+3



Special provisions (SP) 274

Excepted quantities (EQ) E2

Limited quantities (LQ) 0,5 L

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA)

all ingredients are listed or exempt from listing

SARA TITLE III (Superfund Amendment and Reauthorization Act)

List of Extremely Hazardous Substances (40 CFR 355) (EPCRA Section 302 and 304) none of the ingredients are listed

Specific Toxic Chemical Listings (40 CFR 372) (EPCRA Section 313)

Name of substance	CAS No	Remarks	Effective date
Propan-2-ol	67-63-0	Only persons who manufacture by the strong acid process are subject, no supplier notification.	1986-12-31

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System (American Coatings Association)

Category	Rating	Description
Chronic	*	Chronic (long-term) health effects may result from repeated overexposure.
Health	3	Major injury likely unless prompt action is taken and medical treatment is given.
Flammability	3	Material that can be ignited under almost all ambient temperature conditions.
Physical hazard	0	Material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive.
Personal protective equipment	-	

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States)

Category	Degree of hazard	Description
Flammability	3	Material that can be ignited under almost all ambient temperature conditions.
Health	3	Material that, under emergency conditions, can cause serious or permanent injury.
Instability	0	Material that is normally stable, even under fire conditions.
Special hazard		

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Right to Know Hazardous Substance List

Name of substance	CAS No	Remarks	Classifications
ethylene glycol monobutyl ether	111-76-2		CA F2
sodium dodecylbenzenesulfonate	25155-30-0		
Propan-2-ol	67-63-0		F3

Legend

CA Carcinogenic.
F2 Flammable - Second Degree.
F3 Flammable - Third Degree.

Proposition 65 List of chemicals

none of the ingredients are listed

Relevant European Union (EU) safety, health and environmental provisions

Classification according to GHS (1272/2008/EC, CLP)

Hazard class

flammable liquid
skin corrosion/irritation
serious eye damage/eye irritation
skin sensitization

Category Hazard class and category

3 (Flam. Liq. 3)
2 (Skin Irrit. 2)
1 (Eye Dam. 1)
1 (Skin Sens. 1)

SECTION 16: Other information, including date of preparation or last revision

16.1 Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.2	Uses advised against: do not use for squirting or spraying do not use for products which come into direct contact with the skin		yes
2.1		Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200): change in the listing (table)	yes
2.1	The most important adverse physicochemical, human health and environmental effects: Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.	The most important adverse physicochemical, human health and environmental effects: The product is combustible and can be ignited by potential ignition sources.	yes
2.2		Pictograms: change in the listing (table)	yes
2.2		Hazard statements: change in the listing (table)	yes
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.2		Precautionary statements - response: change in the listing (table)	yes
2.2		Precautionary statements - storage: change in the listing (table)	yes
2.2	Hazardous ingredients for labelling: sodium metasilicate, anhydrous, orange oil	Hazardous ingredients for labelling: orange oil, EDTA, anhydrous	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
3.2		Description of the mixture: change in the listing (table)	yes
3.2	Description of the mixture: For full text of abbreviations: see SECTION 16.	Description of the mixture: For full text of abbreviations: see SECTION 16. Exact percentage of ingredients is withheld as a trade secret.	yes
4.1	Description of first-aid measures		yes
5.1	Suitable extinguishing media: water, foam, alcohol resistant foam, ABC-powder	Suitable extinguishing media: water spray, alcohol resistant foam, BC-powder, carbon dioxide (CO ₂)	yes
5.2	Special hazards arising from the substance or mixture: Deposited combustible dust has considerable explosion potential.	Special hazards arising from the substance or mixture: In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.	yes
6.3	Advices on how to contain a spill: Covering of drains. - Take up mechanically.	Advices on how to contain a spill: Covering of drains.	yes
6.3	Advices on how to clean up a spill: Take up mechanically.	Advices on how to clean up a spill: Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage (sawdust, kieselgur (diatomite), sand, universal binder).	yes
6.3		Appropriate containment techniques: Use of adsorbent materials.	yes
7.1	Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Never add water to this product. Ground/bond container and receiving equipment.	Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Never add water to this product. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools.	yes
7.1	Warning: Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.	Warning: Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air. Vapors may form explosive mixtures with air.	yes
7.2	• Explosive atmospheres: Removal of dust deposits.	• Explosive atmospheres: Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.	yes
7.2		• Flammability hazards: Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.	yes
7.2	Ventilation requirements: Use local and general ventilation.	Ventilation requirements: Use local and general ventilation. Ground/bond container and receiving equipment.	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
8.2	• hand protection: Wear protective gloves.	• hand protection: Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.	yes
8.2	Respiratory protection: Particulate filter device (EN 143).	Respiratory protection: In case of inadequate ventilation wear respiratory protection.	yes
9.1	Physical state: solid	Physical state: liquid	yes
9.1	Flammability (solid, gas): this material is combustible, but will not ignite readily	Flammability (solid, gas): not relevant (fluid)	yes
9.1		Explosive limits: not determined	yes
9.1	Explosion limits of dust clouds: not determined		yes
9.1	Vapor pressure: 186.4 Pa at 25 °C	Vapor pressure: 31.69 hPa at 25 °C	yes
9.1	Viscosity: not relevant (solid matter)	Viscosity: not determined	yes
10.1	Reactivity: Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".	Reactivity: Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s): risk of ignition	yes
10.1		• if heated: risk of ignition	yes
10.4	Conditions to avoid: There are no specific conditions known which have to be avoided.	Conditions to avoid: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	yes
10.4	Hints to prevent fire or explosion: The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.	Hints to prevent fire or explosion: Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.	yes
11.1	Skin corrosion/irritation: Causes severe skin burns and eye damage.	Skin corrosion/irritation: Causes skin irritation.	yes
12.1		Aquatic toxicity (acute) of components of the mixture: change in the listing (table)	yes
12.1		Aquatic toxicity (chronic) of components of the mixture: change in the listing (table)	yes
12.2		Degradability of components of the mixture: change in the listing (table)	yes
13.1		Waste treatment-relevant information: Solvent reclamation/regeneration.	yes
15.1		Toxic Substance Control Act (TSCA): all ingredients are listed or exempt from listing	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
15.1		Specific Toxic Chemical Listings (40 CFR 372) (EPCRA Section 313): change in the listing (table)	yes
15.1		Right to Know Hazardous Substance List: change in the listing (table)	yes
15.1		Classification according to GHS (1272/2008/EC, CLP): change in the listing (table)	yes

16.2 Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR OSHA	29 CFR §1910.1001 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR § 40 U.S. Department of Transportation
Acute Tox.	acute toxicity
Asp. Tox.	aspiration hazard
ATE	Acute Toxicity Estimate
BCF	BioConcentration Factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
EmS	Emergency Schedule
ERG No	Emergency Response Guidebook - Number
Eye Dam.	seriously damaging to the eye
Eye Irrit.	irritant to the eye
Flam. Liq.	flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC Monographs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
log KOW	n-octanol/water

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Abbr.	Descriptions of used abbreviations
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NFPA® 704	National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States)
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	permissible exposure limit
PNEC	Predicted No-Effect Concentration
ppm	parts per million
Skin Corr.	corrosive to skin
Skin Irrit.	irritant to skin
Skin Sens.	skin sensitization
STEL	short-term exposure limit
STOT RE	specific target organ toxicity - repeated exposure
STOT SE	specific target organ toxicity - single exposure
TWA	time-weighted average
vPvB	very Persistent and very Bioaccumulative

16.3 Key literature references and sources for data

- OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200
- 49 CFR § 172.101 Hazardous Materials Table (DOT)

16.4 Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards/Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

16.5

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H225	highly flammable liquid and vapor
H226	flammable liquid and vapor
H227	combustible liquid
H302	harmful if swallowed
H304	may be fatal if swallowed and enters airways
H312	harmful in contact with skin
H314	causes severe skin burns and eye damage
H315	causes skin irritation
H317	may cause an allergic skin reaction

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Code	Text
H318	causes serious eye damage
H319	causes serious eye irritation
H332	harmful if inhaled
H335	may cause respiratory irritation
H336	may cause drowsiness or dizziness
H373	may cause damage to organs through prolonged or repeated exposure

16.7

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.