

Safety Data Sheet

Triethanolamine 99% Tech

Version 1.3

Revision Date: 10/01/2014

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Triethanolamine 99% Tech

Manufacturer or supplier's details

Company : Nexeo Solutions LLC
Address : 3 Waterway Square Place Suite 1000
 Woodlands, Tx. 77380
 United States of America

Emergency telephone number:

Health North America: 1-855-NEXEO4U (1-855-639-3648)

Health International: 1-855-NEXEO4U (1-855-639-3648)

Transport North America: CHEMTREC 800.424.9300

Additional Information: : Responsible Party: Product Safety Group
 E-Mail: msds@nexeosolutions.com
 SDS Requests: 1-855-429-2661
 SDS Requests Fax: 1-281-500-2370
 Website: www.nexeosolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation : Category 2
 Eye irritation : Category 2A
 Carcinogenicity : Category 2
 Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Liver, Blood, Kidney)

GHS Label element

Hazard pictograms : 

Signal word : Warning

Hazard statements : H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H351 Suspected of causing cancer.
 H373 May cause damage to organs (Liver, Blood, Kidney) through prolonged or repeated exposure if

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swallowed.

Precautionary statements : **Prevention:**
 P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P280 Wear eye protection/ face protection.
 P280 Wear protective gloves.
 P281 Use personal protective equipment as required.
Response:
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.
Storage:
 P405 Store locked up.
Disposal:
 P501 Dispose of contents/ container to an approved waste disposal plant.

Potential Health Effects

Carcinogenicity:

IARC

Group 2B: Possibly carcinogenic to humans

111-42-2

Diethanolamine

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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Emergency Overview

Appearance	viscous, liquid
Colour	light yellow, clear
Odour	ammoniacal, amine-like
Hazard Summary	No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical Name	Concentration (%)
102-71-6	Triethanolamine	90 - 100
111-42-2	Diethanolamine	0.1 - 1.0

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
Induce vomiting immediately and call a physician.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.

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Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

- | | |
|---|---|
| Suitable extinguishing media | : Use an extinguishing media appropriate for surrounding fire. |
| Unsuitable extinguishing media | : High volume water jet |
| Hazardous combustion products | : Carbon oxides
Nitrogen oxides (NOx) |
| Specific extinguishing methods | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Further information | : Standard procedure for chemical fires. |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus for fire-fighting if necessary. |

NFPA Flammable and Combustible Liquids Classification:
Combustible Liquid Class IIIB

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | |
|---|---|
| Personal precautions, protective equipment and emergency procedures | : Use personal protective equipment. |
| Environmental precautions | : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | : Neutralise with acid.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal. |

SECTION 7. HANDLING AND STORAGE

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- Advice on safe handling : Do not breathe vapours/dust.
 Avoid exposure - obtain special instructions before use.
 Avoid contact with skin and eyes.
 For personal protection see section 8.
 Smoking, eating and drinking should be prohibited in the application area.
 Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
 Observe label precautions.
 Electrical installations / working materials must comply with the technological safety standards.
- Storage temperature : 86 - 109 °C
- Storage period : 24 Months

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
102-71-6	Triethanolamine	TWA	5 mg/m ³	ACGIH
111-42-2	Diethanolamine	TWA (Inhalable fraction and vapor)	1 mg/m ³	ACGIH
		TWA	3 ppm 15 mg/m ³	NIOSH REL
		TWA	3 ppm 15 mg/m ³	OSHA P0

Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
 In the case of vapour formation use a respirator with an approved filter.
- Hand protection
 Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

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Eye protection	: Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	: impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: viscous, liquid
Colour	: light yellow, clear
Odour	: ammoniacal, amine-like
Odour Threshold	: No data available
pH	: 10.5 - 11 @ 2 %
Freezing Point (Melting point/freezing point)	: 20.5 °C (68.9 °F)
Boiling Point (Boiling point/boiling range)	: 336.1 - 340 °C (637.0 - 644 °F) (1013 hPa)
Flash point	: 179 - 201.7 °C (354 - 395.1 °F)
Evaporation rate	: 0.01 n-Butyl Acetate
Flammability (solid, gas)	: No data available
Burning rate	: No data available
Upper explosion limit	: 7.2 %(V)
Lower explosion limit	: 1.5 - 3.6 %(V)
Vapour pressure	: 0.0002 mmHg @ 21 °C (70 °F)

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Relative vapour density	: 5
Relative density	: 1.126 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	: 1.125 g/cm ³ @ 20 °C (68 °F)
Bulk density	: No data available
Solubility(ies)	
Water solubility	: 1,000 g/l completely miscible @ 20 °C (68 °F)
Solubility in other sol- vents	: No data available
Partition coefficient: n- octanol/water	: log Pow: -2.3
Auto-ignition temperature	: 324 - 350 °C
Thermal decomposition	: > 120 °C
Viscosity	
Viscosity, dynamic	: 934 mPa.s @ 20 °C (68 °F)
Viscosity, kinematic	: 934 mm ² /s @ 20 °C (68 °F)
Explosive properties	: Not explosive

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No hazards to be specially mentioned.
Conditions to avoid	: elevated temperatures Possible emission of gaseous decomposition products may lead to a dangerous pressure build-up. Exposure to moisture. Keep away from heat, flame, sparks and other ignition sources. Exposure to sunlight.
Incompatible materials	: Strong acids

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Strong oxidizing agents
Aldehydes
aluminum
Copper
Copper alloys
galvanized metals
halogenated hydrocarbons
Ketones
Metals
Nitrous acid and other nitrosating agents
organic anhydrides
organic halides
strong bases
strong oxidizing agents
nitrites
hydrogen peroxide
Air

Hazardous decomposition products : May form:
carbon dioxide and carbon monoxide
nitrogen oxides
Hydrogen cyanide (hydrocyanic acid)
Formaldehyde
Ammonia gas may be liberated at high temperatures.
Thermal decomposition can lead to release of irritating
gases and vapours.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Components:

102-71-6:

Acute oral toxicity : LD50 (rat, male and female): 6,400 mg/kg
Method: OECD Test Guideline 401
GLP: no

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 (rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: no

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111-42-2:

Acute oral toxicity : LD50 (rat): 780 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 (rabbit): 13,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation and/or dermatitis.

Components:

102-71-6:

Species: rabbit
Method: OECD Test Guideline 404
Result: Irritating to skin.
GLP: no

111-42-2:

Species: rabbit
Result: Irritating to skin.

Serious eye damage/eye irritation

Product:

Remarks: May cause irreversible eye damage.

Components:

102-71-6:

Species: rabbit
Result: Irritating to eyes.
Method: OECD Test Guideline 405

111-42-2:

Species: rabbit
Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Components:

102-71-6:

Test Type: Maximization test

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Species: guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitisation on laboratory animals.
GLP: yes

111-42-2:

Test Type: Maximisation Test (GPMT)
Species: guinea pig
Result: Does not cause skin sensitisation.

Germ cell mutagenicity

Components:

102-71-6:

Genotoxicity in vitro	: Test Type: Ames test Test species: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: No data available
	: Test Type: Sister chromatid exchange assay in mammalian cells Test species: Chinese hamster ovary (CHO) Metabolic activation: with and without metabolic activation Result: negative GLP: No data available
	: Test Type: Chromosome aberration test in vitro Test species: Chinese hamster ovary (CHO) Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative GLP: No data available

Germ cell mutagenicity-Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

111-42-2:

Genotoxicity in vitro	: Test Type: Mammalian cell gene mutation assay Test species: Mouse lymphoma cells Metabolic activation: with and without metabolic activation Result: negative
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Genotoxicity in vivo	: Test Type: In vivo micronucleus test Test species: mouse
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Application Route: Dermal
Exposure time: 13 wks
Result: negative

Germ cell mutagenicity-
Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Components:

102-71-6:

Carcinogenicity - Assessment : Carcinogenicity classification not possible from current data.

111-42-2:

Species: rat
Application Route: Dermal
Exposure time: 103 wks
Frequency of Treatment: 5 days/week
NOAEL: 64 mg/kg body weight

Method: OECD Test Guideline 451

Carcinogenicity - Assessment : Suspected human carcinogens

Reproductive toxicity

Components:

102-71-6:

Effects on fertility : Species: rat, male and female
Application Route: oral
Dose: 100, 300, 1000 mg/kg bw/day
General Toxicity - Parent: NOAEL: > 1,000 mg/kg bw
Fertility: NOAEL: > 1,000 mg/kg
Early Embryonic Development: NOAEL: 300 mg/kg
Symptoms: reduced litter size
Method: OECD Test Guideline 421
GLP: yes

Effects on foetal development : Species: rat
Application Route: oral
Dose: 100, 300, 1000 mg/kg bw/day
General Toxicity Maternal: NOAEL: > 1,000 mg/kg bw
Developmental Toxicity: NOAEL: 300 mg/kg bw
GLP: yes

Reproductive toxicity -
Assessment : Fertility classification not possible from current data.
Embryotoxicity classification not possible from current data.

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111-42-2:

- Effects on fertility : Test Type: Two-generation study
Species: rat
Application Route: Oral
Fertility: NOAEL: 300 mg/kg body weight
Symptoms: Reduced fertility
Remarks: Information given is based on data obtained from similar substances.
- Effects on foetal development : Species: rat
Application Route: Inhalation
Duration of Single Treatment: 10 d
Frequency of Treatment: 6 hr/day
Teratogenicity: NOAEC: 0.2 mg/L
- Reproductive toxicity - Assessment : Fertility classification not possible from current data.
Embryotoxicity classification not possible from current data.

STOT - single exposure

Product:

No data available

Components:

No data available

Components:

No data available

STOT - repeated exposure

Product:

No data available

Components:

No data available

Components:

111-42-2:

Exposure routes: Oral

Target Organs: Liver, Blood, Kidney

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2., May cause damage to organs through prolonged or repeated exposure.

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Repeated dose toxicity

Components:

102-71-6:

Species: rat, male and female
NOAEL: 1,000 mg/kg
Application Route: Oral
Exposure time: 91 d
Number of exposures: daily
Dose: 0; 250; 500; 1000 mg/kg bw
Method: OECD Test Guideline 408
GLP: no

Species: rat, male and female
NOAEL: 0.5 mg/l
Application Route: Inhalation
Exposure time: 28 d
Number of exposures: 6 h/d, 5 d/wk
Dose: 0.02; 0.1; 0.5 mg/l
Method: OECD Test Guideline 412
GLP: yes
Symptoms: Local irritation

Species: rat, male and female
NOAEL: 125 mg/kg
Application Route: Dermal
Exposure time: 90 d
Number of exposures: 5 d/wk
Dose: 125; 250; 500; 1000; 2000 mg/k
Method: OECD Test Guideline 411
GLP: No data available
Symptoms: Local irritation

111-42-2:

Species: rat
LOAEL: 320
Application Route: Oral
Exposure time: 13 wks
Number of exposures: daily
Symptoms: Blood disorders

Aspiration toxicity

Components:

102-71-6:

No aspiration toxicity classification

111-42-2:

No aspiration toxicity classification

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Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

102-71-6:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)):
11,800 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia): 609.98 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EC50 (Desmodesmus subspicatus): 512 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test

Toxicity to bacteria : EC 50 (activated sludge): 1,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

111-42-2:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,460 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia): 30.1 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (Selenastrum capricornutum)): 2.2 mg/l
End point: Growth rate
Exposure time: 96 h
Test Type: static test

Toxicity to bacteria : EC20 (activated sludge): 1,000 mg/l

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End point: Respiratory rate
Exposure time: 30 min
Test Type: Static
Method: OECD Test Guideline 209

Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Persistence and degradability

Components:

102-71-6:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 97 %
Exposure time: 28 d
Method: OECD Test Guideline 301A

Theoretical Oxygen Demand (ThOD) : 0.00204 mg/g

111-42-2:

Biodegradability : aerobic
Inoculum: activated sludge
Biodegradation: 93 %
Exposure time: 28 d

Bioaccumulative potential

Components:

102-71-6:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 3.9

Partition coefficient: n-octanol/water : Remarks: No data available

111-42-2:

Partition coefficient: n-octanol/water : log Pow: -2.18

Mobility in soil

No data available

Other adverse effects

No data available

Product:

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Regulation	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	: No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	: Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact NEXEO's Environmental Services Group at 800-637-7922.
Contaminated packaging	: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

IATA (International Air Transport Association): Not regulated as a dangerous good

IMDG-Code: Not regulated as a dangerous good

DOT (Department of Transportation): UN3082, Environmentally hazardous substances, liquid, n.o.s., (DIETHANOLAMINE), 9, III

Special Notes:	: Class 9, Packing Group III when material is shipped in quantities in one package at or above the Reportable Quantity and when no other hazard class applies; otherwise, not regulated.
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SECTION 15. REGULATORY INFORMATION

OSHA Hazards : Carcinogen, Harmful by ingestion., Moderate skin irritant, Severe eye irritant

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Diethanolamine	111-42-2	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Chronic Health Hazard
Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

111-42-2	Diethanolamine	1 %
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Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

111-42-2	Diethanolamine	1 %
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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. Clean-Water Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

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Massachusetts Right To Know

102-71-6	Triethanolamine	90 - 100 %
111-42-2	Diethanolamine	0.1 - 1.0 %

Pennsylvania Right To Know

102-71-6	Triethanolamine	90 - 100 %
111-42-2	Diethanolamine	0.1 - 1.0 %

New Jersey Right To Know

102-71-6	Triethanolamine	90 - 100 %
111-42-2	Diethanolamine	0.1 - 1.0 %

California Prop 65

	WARNING! This product contains a chemical known to the State of California to cause cancer.	
111-42-2	Diethanolamine	

The components of this product are reported in the following inventories:

1907/2006 (EU)	:	u (undetermined listing) (Not in compliance with the inventory)
Switzerland. New notified substances and declared preparations	:	y (positive listing) (The formulation contains substances listed on the Swiss Inventory)
United States TSCA Inventory	:	y (positive listing) (On TSCA Inventory)
Canadian Domestic Substances List (DSL)	:	y (positive listing) (All components of this product are on the Canadian DSL.)
Australia Inventory of Chemical Substances (AICS)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
New Zealand. Inventory of Chemical Substances	:	y (positive listing) (On the inventory, or in compliance with the inventory)
Japan. ENCS - Existing and New Chemical Substances Inventory	:	y (positive listing) (On the inventory,

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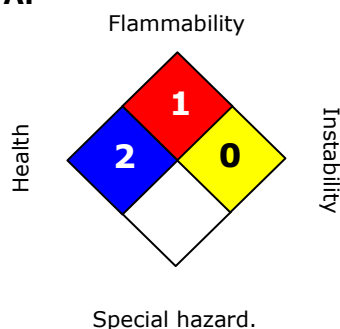
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		or in compliance with the inventory)
Japan. ISHL - Inventory of Chemical Substances (METI)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
Korea. Korean Existing Chemicals Inventory (KECI)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
China. Inventory of Existing Chemical Substances in China (IECSC)	:	y (positive listing) (On the inventory, or in compliance with the inventory)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do

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not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661) MSDS@nexeosolutions.com.

Legacy MSDS: R0001187, 000000006799

Material number:

16062250, 16052404, 734046, 706147, 686914, 644148, 633448, 608901, 546098, 57116, 56713, 91100, 55559, 75653, 167901, 124382, 124858, 502377, 20265, 20264, 20263, 20262, 753924, 506466, 89471, 58339, 580752, 554238, 89874, 55686, 56966, 153170

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials

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<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50		Lethal Concentration 50%	