

Version 1.0

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#### **SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name

: Isopropyl Alcohol

**Product Use Descrip-**

: Alcohol solvent.

tion

## Manufacturer or supplier's details

Company Address : Nexeo Solutions LLC - STARTEX™

3 Waterway Square Place Suite 1000

Woodlands, Tx. 77380 United States of America

Cage Code:

: 4N760

**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 Informa-

tion:

: Responsible Party: Product Safety Group

E-Mail: msds@nexeosolutions.com MSDS Requests: 1-855-429-2661 MSDS Requests Fax: 1-281-500-2370 Website: www.nexeosolutions.com

#### **SECTION 2. HAZARDS IDENTIFICATION**

**GHS Classification** 

Flammable liquids

: Category 2

Eye irritation

: Category 2A

Specific target organ tox icity - single exposure

Specific target organ tox- : Category 3 (Central nervous system)

**GHS Label element** 

Hazard pictograms





Signal word

: Danger

Hazard statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.



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Precautionary statements | Prevention:

P210 Keep away from heat, hot surfaces, sparks, open

flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/

spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ eye protection/ face

protection.

#### **Potential Health Effects**

Carcinogenicity:

**IARC** 

No component of this product present at levels greater

than or equal to 0.1% is identified as probable, possible

or confirmed human carcinogen by IARC.

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 antic-

ipated carcinogen by NTP.

#### **Emergency Overview**

WARNING!		
Appearance	liquid	
Colour	colourless, clear	
Odour	alcohol-like	

#### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture

: Mixture

# **Hazardous components**

CAS-No.	Chemical Name	Concentration (%)
67-63-0	Isopropyl alcohol	90 - 100
64-17-5	Ethanol	0.1 - 1



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**Synonyms** 

: A A 59282 Isopropyl Alcohol ACS, Isoproponal

### SECTION 4. FIRST AID MEASURES

General advice

Move out of dangerous area.

Show this safety data sheet to the doctor in atten-

dance.

Do not leave the victim unattended.

If inhaled

: Consult a physician after significant exposure. If unconscious place in recovery position and seek

medical advice.

In case of skin contact

: 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.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed

Keep respiratory tract clear.

Never give anything by mouth to an unconscious per-

If symptoms persist, call a physician.

#### **SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

High volume water jet

media

Specific hazards during firefighting

: Do not allow run-off from fire fighting to enter drains

or water courses.

No hazardous combustion products are known

Hazardous combustion products

: No hazardous combustion products are known

Specific extinguishing

Further information

# Use a water spray to cool fully closed containers.

methods

: Collect contaminated fire extinguishing water sepa-



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rately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

For safety reasons in case of fire, cans should be stored separately in closed containments.

Special protective equipment for firefighters

: Wear self-contained breathing apparatus for firefighting if necessary.

## NFPA Flammable and Combustible Liquids Classification:

Flammable Liquid Class IB

#### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

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

Contain spillage, and then collect with noncombustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### SECTION 7. HANDLING AND STORAGE

Advice on safe handling

Avoid formation of aerosol.

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.

Take precautionary measures against static dis-

charges.

Provide sufficient air exchange and/or exhaust in work

rooms.



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Open drum carefully as content may be under pres-

sure

Dispose of rinse water in accordance with local and

national regulations.

Conditions for safe sto-

rage

No smoking.

Keep container tightly closed in a dry and well-

ventilated place.

Containers which are opened must be carefully re-

sealed and kept upright to prevent leakage.

Observe label precautions.

Electrical installations / working materials must comp-

ly with the technological safety standards.

# **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

# Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parame- ters / Permissi- ble concentra- tion	Basis
67-63-0	Isopropyl alcohol	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	NIOSH REL
		ST	500 ppm 1,225 mg/m3	NIOSH REL
		TWA	400 ppm 980 mg/m3	OSHA Z-1
		TWA	400 ppm 980 mg/m3	OSHA PO
		STEL	500 ppm 1,225 mg/m3	OSHA PO

#### Biological occupational exposure limits

Components	CAS-No.	Control parame- ters	Biological specimen	- 55-075	Permissi- ble con- centration	Basis
Isopropyl alcohol	67-63-0	Acetone	In urine	End of shift at end of work- week	40 mg/l	ACGIH BEI

# Personal protective equipment

Respiratory protection

: No personal respiratory protective equipment normally

required.



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In the case of vapour formation use a respirator with

an approved filter.

Hand protection

Remarks

: The suitability for a specific workplace should be dis-

cussed with the producers of the protective gloves.

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

: liquid

Colour

: colourless, clear

Odour

: alcohol-like

**Odour Threshold** 

: 200 ppm

рΗ

: No data available

Freezing Point (Melting point/freezing point)

: -88 °C (-126 °F)

Boiling Point (Boiling

: 82 °C (180 °F)

point/boiling range)

: 12 °C (54 °F)

Flash point

•

Evaporation rate

: 1.2

Flammability (solid, gas)

n-Butyl Acetate
: No data available

Burning rate

: No data available



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Upper explosion limit : 12.7 %(V)

Lower explosion limit ; 2 %(V)

Vapour pressure 32 mmHg @ 20 °C (68 °F)

Relative vapour density 2 @ 20 °C (68 °F)

AIR=

Relative density 0.79 @ 20 °C (68 °F)

Reference substance: (water = 1)

Density 0.79 g/cm3 @ 20 °C (68 °F)

Solubility(ies)

Water solubility : completely miscible

Solubility in other sol-

vents

: No data available

Partition coefficient: n-

octanol/water

: log Pow: 0.05 @ 25 °C (77 °F)

Auto-ignition temperature # 399 °C

Thermal decomposition : No data available

Viscosity

Viscosity, dynamic 2.4 mPa.s @ 20 °C (68 °F)

Viscosity, kinematic ; 2.6 mm2/s @ 25 °C (77 °F)

#### **SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No dangerous reaction known under conditions of

: Heat, flames and sparks.

normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous : Vapours may form explosive mixture with air.

Possibility of hazardous reactions

Conditions to avoid

MSDS Number: 100000006770 7 / 21 Isopropyl Alcohol



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Incompatible materials

Aldehydes
Chlorine
Ethylene oxide
halogens
isocyanates
Strong acids

strong oxidizing agents

Hazardous decomposition

products

: Carbon monoxide, carbon dioxide and unburned hy-

drocarbons (smoke).

#### SECTION 11. TOXICOLOGICAL INFORMATION

# **Acute toxicity**

#### **Product:**

Acute oral toxicity

Acute toxicity estimate : > 5,000 mg/kg

Method: Calculation method

Acute inhalation toxicity

: Acute toxicity estimate : > 40 mg/l

Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity

: Acute toxicity estimate : > 5,000 mg/kg

Method: Calculation method

#### **Components:**

67-63-0:

Acute oral toxicity

: LD50 (rat): 5,500 mg/kg

Symptoms: ataxia, Vomiting, Pain, hypothermia, Co-

ma, Dizziness

Acute inhalation toxicity

# LC50 (rat, male and female): > 10000 ppm

Exposure time: 6 h
Test atmosphere: vapour

Symptoms: Central nervous system depression

GLP: yes

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, cate-

gory 3 with narcotic effects.

Acute dermal toxicity

LD50 (rabbit): > 12,800 mg/kg

64-17-5:

Acute oral toxicity



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Assessment: The component/mixture is toxic after

single ingestion.

Remarks: No data available

Acute inhalation toxicity

Assessment: The component/mixture is toxic after

short term inhalation.

Remarks: No data available

Acute dermal toxicity

: Assessment: The component/mixture is toxic after

single contact with skin. Remarks: No data available

## Skin corrosion/irritation

# Product:

Remarks: May cause skin irritation in susceptible persons.

#### **Components:**

## 67-63-0:

Species: rabbit Exposure time: 4 h Method: In vivo

Result: Not irritating to skin Remarks: Not irritating to skin

# 64-17-5:

Result: Irritating to skin. Remarks: No data available

# Serious eye damage/eye irritation

#### **Product:**

Remarks: Eye irritation

#### **Components:**

# 67-63-0:

Species: rabbit

Result: Irritating to eyes, Exposure time: 24 h Method: In vivo

#### 64-17-5:

Species: rabbit Result: Eye irritation

# Respiratory or skin sensitisation

#### **Components:**



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67-63-0:

Test Type: Buehler Test Exposure routes: Dermal Species: guinea pig

Assessment: Does not cause respiratory sensitisation.

Method: OECD Test Guideline 406

Result: Does not cause skin sensitisation.

GLP: yes

Remarks: not sensitising

64-17-5:

Test Type: lymph node assay

Species: mouse

Method: OECD Test Guideline 429

GLP: No data available

Remarks: Did not cause sensitisation on laboratory animals.

#### Germ cell mutagenicity

#### **Components:**

67-63-0:

Genotoxicity in vitro

: Test Type: Ames test

Metabolic activation: with and without metabolic acti-

vation

Result: negative

: Test Type: Mammalian cell gene mutation assay Test species: Chinese hamster ovary (CHO)

Metabolic activation: with and without metabolic acti-

vation

Result: negative

GLP: yes

Genotoxicity in vivo

Test Type: In vivo micronucleus test

Test species: mouse (male and female)

Application Route: Intraperitoneal

Exposure time: Single

Dose: 0, 350, 1173, 2500, 3500 mg/kg

Result: negative

GLP: yes

Germ cell mutagenicity-

Assessment

: Did not show mutagenic effects in animal experi-

ments.

64-17-5:

Genotoxicity in vitro

Test Type: Mammalian cell gene mutation assay

Test species: mouse lymphoma cells

Metabolic activation: with and without metabolic acti-

vation

Method: OECD Test Guideline 476



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Result: negative GLP: No data available

: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic acti-

vation

Method: OECD Test Guideline 471

Result: negative GLP: No data available

Genotoxicity in vivo

: Test Type: Dominant lethal assay

Test species: mouse (male)
Application Route: Oral

Dose: 10 or 40% ethanol in water Method: OECD Test Guideline 478

Result: Ambiguous GLP: No data available

Germ cell mutagenicity-

Assessment

: Tests on bacterial or mammalian cell cultures did not

show mutagenic effects.

#### Carcinogenicity

## **Components:**

## 67-63-0:

Species: rat, (male and female)
Application Route: inhalation (vapour)

Exposure time: 104 wks Activity duration: 6 h

Dose: 0, 500, 2500, 5000 ppm Frequency of Treatment: 5 days/week

NOAEL: 5,000 ppm

Method: OECD Test Guideline 451

Result: did not display carcinogenic properties

GLP: yes

Species: mouse, (male and female)
Application Route: inhalation (vapour)

Exposure time: 78 wks Activity duration: 6 h

Dose: 0, 500, 2500, 5000 ppm

Frequency of Treatment: 5 days/week

NOAEL: 5,000 ppm

Result: did not display carcinogenic properties

GLP: yes

Carcinogenicity - As-

Not classifiable as a human carcinogen.



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sessment

64-17-5:

Carcinogenicity - As-

sessment

: No evidence of carcinogenicity in animal studies.

### Reproductive toxicity

#### Components:

67-63-0:

Effects on fertility

Test Type: Two-generation study

Species: rat, male and female

Dose: 0, 100, 500, 1000 mg/kg bw/d

General Toxicity - Parent: NOAEL: 500 mg/kg body

weight

General Toxicity F1: NOAEL: 500 mg/kg body weight

Fertility: NOAEL: 1,000 mg/kg body weight

Symptoms: Maternal effects. Fetotoxicity. Reduced

offspring weight gain.

Method: OECD Test Guideline 416

Result: Animal testing did not show any effects on

fertility. GLP: yes

Effects on foetal devel-

opment

: Species: rabbit

Application Route: Oral

Dose: 0, 120, 240, 480 mg/kg bw/day Duration of Single Treatment: 13 d

General Toxicity Maternal: NOAEL: 240 mg/kg body

weight

Developmental Toxicity: NOAEL: 480 mg/kg

Symptoms: Maternal toxicity Result: No teratogenic effects.

GLP: yes

Reproductive toxicity -

Assessment

Animal testing did not show any effects on fertility.

Did not show teratogenic effects in animal experi-

ments.

64-17-5:

Effects on fertility

Test Type: Two-generation study

Species: mouse, male and female

Application Route: oral

Dose: 5, 10 and 15% v/v in water

General Toxicity - Parent: NOAEL: 15 % diet

General Toxicity F1: NOAEL: 10 % diet

Symptoms: reduced litter size Reduced sperm motility

in F1 generation

Method: OECD Test Guideline 416

GLP: No data available



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Effects on foetal devel-

opment

: Species: rat

Application Route: Inhalation

Dose: 10,000, 16,000 or 20,000 ppm

General Toxicity Maternal: NOAEL: 16,000 ppm

Teratogenicity: NOAEL: > 20,000 ppm

Symptoms: No malformations were observed.

Method: OECD Test Guideline 414

GLP: No data available

Reproductive toxicity -

Assessment

No evidence of adverse effects on sexual function and fertility, and on development, based on animal expe-

riments.

## STOT - single exposure

#### **Product:**

Target Organs: Central nervous system

#### **Components:**

#### 67-63-0:

Exposure routes: Inhalation

Target Organs: Central nervous system

Assessment: May cause drowsiness or dizziness.

#### Components:

No data available

#### STOT - repeated exposure

#### Product:

No data available

#### Components:

No data available

#### Components:

No data available

# Repeated dose toxicity

## Components:

# 67-63-0:

Species: rat, male and female

NOAEL: > 5000

Application Route: inhalation (vapour)

Exposure time: 13 wks



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Number of exposures: 6 h/d, 5 d/wk

Dose: 0, 100, 500, 1500, 5000 ppm Method: OECD Test Guideline 413

GLP: yes

Symptoms: Central nervous system depression

Species: mouse, male and female

NOAEL: > 5000

Application Route: inhalation (vapour)

Exposure time: 13 wks

Number of exposures: 6 h/d, 5 d/wk Dose: 0, 100, 500, 1500, 5000 ppm Method: OECD Test Guideline 413

GLP: yes

Symptoms: Central nervous system depression

#### 64-17-5:

Species: rat, male and female

NOAEL: 10 ml/kg Application Route: Oral Exposure time: 7 or 14 wk

Number of exposures: 2 times/d, 7 d/wk Dose: 5, 10, 20ml/kg of 16.25% etoh Method: OECD Test Guideline 408

GLP: yes

# **Aspiration toxicity**

# **Components:**

## 67-63-0:

May be harmful if swallowed and enters airways.

#### **Further information**

#### **Product:**

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

#### **SECTION 12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

#### **Components:**

67-63-0:

Toxicity to fish

: LC50 (Pimephales promelas (fathead minnow)): 9,640

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mg/l

Exposure time: 96 h

Test Type: flow-through test

Toxicity to daphnia and other aquatic inverte-

brates

EC50 (Daphnia magna (Water flea)): > 10,000 mg/l

Exposure time: 24 h
Test Type: static test

Toxicity to algae

: Remarks: No data available

Toxicity to bacteria

: Toxicity threshold (Pseudomonas putida): 1,050 mg/l

Exposure time: 16 h

64-17-5:

Toxicity to fish

LC50 (Pimephales promelas (fathead minnow)):

15,300 mg/l

Exposure time: 96 h

Test Type: flow-through test

Toxicity to daphnia and other aquatic inverte-

brates

: EC50 (Ceriodaphnia dubia): 5,012 mg/l

Exposure time: 48 h Test Type: static test

Toxicity to algae

EC50 (Chlorella vulgaris (Fresh water algae)): 275

mg/l

End point: Growth rate Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

GLP: No data available

## Persistence and degradability

## Components:

67-63-0:

Biodegradability

Result: Readily biodegradable.

Biodegradation: 95 %

Method: OECD Test Guideline 301E

Chemical Oxygen De-

mand (COD)

0.00209 mg/g

Theoritical Oxygen De-

mand (ThOD)

: 0.00240 mg/g

64-17-5:

Biodegradability

: Result: Readily biodegradable.



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#### **Bioaccumulative potential**

# Components:

67-63-0:

Bioaccumulation

: Bioconcentration factor (BCF): 3.16

Remarks: Does not significantly accumulate in organ-

isms.

Partition coefficient: n-

octanol/water

log Pow: 0.05 (25 °C)

64-17-5:

Bioaccumulation

Remarks: Bioaccumulation is unlikely,

Mobility in soil

**Components:** 

67-63-0:

Stability in soil

: Remarks: Adsorbs on soil.

Other adverse effects

No data available

**Product:** 

Regulation

40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Sub-

stances

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 in-

formation

: No data available

## **SECTION 13. DISPOSAL CONSIDERATIONS**

#### Disposal methods

Waste from residues

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.



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Do not re-use empty containers.

Do not burn, or use a cutting torch on, the empty drum.

\_\_\_\_

**SECTION 14. TRANSPORT INFORMATION** 

IATA (International Air Transport Association): UN1219, Isopropanol, 3, II

**IMDG (International Maritime Dangerous Goods):** UN1219, ISOPROPANOL, 3, II, Flash Point:12 °C(54 °F)

DOT (Department of Transportation): UN1219, Isopropanol, 3, II

#### **SECTION 15. REGULATORY INFORMATION**

**OSHA Hazards** 

: Flammable liquid, Moderate eye irritant

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

**CERCLA Reportable Quantity** 

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity** 

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

SARA 311/312

Hazards

: Fire 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** 

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed

the threshold (De Minimis) reporting levels estab-

lished by SARA Title III, Section 313.

#### Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

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).



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The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

67-63-0	Isopropyl alcohol	100 %
64-17-5	Ethanol	0.1 %
71-23-8	n-Propanol	0.015 %

#### **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**

# **Massachusetts Right To Know**

	67-63-0	Isopropyl alcohol	90 - 100 %	
Pennsylvan	ia Right To Kno	ow .		
	67-63-0	Isopropyl alcohol	90 - 100 %	
New Jersey Right To Know				
	67-63-0	Isopropyl alcohol	90 - 100 %	
	64-17-5	Ethanol	0.1 - 1 %	

#### California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

1907/2006 (EU)	**	n (Negative 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	(2(2))	y (positive listing) (On TSCA Inven- tory)
Canadian Domestic Substances List (DSL)	2	y (positive listing) (All components of this product are on the Canadian DSL.)

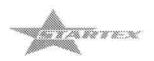
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Australia Inventory of Chemical Substances (AICS)	380	y (positive listing) (On the inventory, or in compliance with the inventory)
New Zealand. Inventory of Chemical Substances	3.0	y (positive listing) (On the inventory, or in compliance with the inventory)
Japan. ENCS - Existing and New Chemical Substances Inventory	(#J8)	y (positive listing) (On the inventory, 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)	3.5	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)

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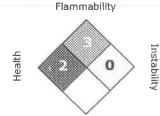
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#### SECTION 16. OTHER INFORMATION

#### **Further information**

#### NFPA:



Special hazard.

#### HMIS III:

HEALTH	2*
FLADMARELITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,

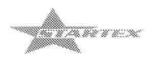
2 = Moderate, 3 = High 4 =Extreme, \* = Chronic

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 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.

#### Material number:

16056227, 16056226, 16056211

Key or leg	Key or legend to abbreviations and acronyms used in the safety data sheet					
ACGIH	American Conference of Gov- ernment Industrial Hygienists	LD50	Lethal Dose 50%			
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level			
DSL	Canada, Domestic Sub- stances List	NFPA	National Fire Protection Agency			
NDSL	Canada, Non-Domestic Sub- stances 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	OSHA	Occupational Safety & Health Admin-			



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	Scenario Tool		istration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Exist- ing Chemical Substances	PICCS	Philipines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concen- tration 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 Chemi- cal 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 Compositon, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
1.050		Lethal Cou	ncentration 50%

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