

Version Revision Date: MSDS Number: Date of last issue: 01/15/2015
1.1 02/10/2015 47922-00002 Date of first issue: 01/15/2015

SECTION 1. IDENTIFICATION

Product name : PURELL® Waterless Surgical Scrub Gel

Manufacturer or supplier's details

Company name of supplier : GOJO Industries, Inc.

Address : One GOJO Plaza, Suite 500

Akron OH 44311

Telephone : 1 (330) 255-6000

Emergency telephone : 1-800-424-9300 CHEMTREC

Recommended use of the chemical and restrictions on use

Recommended use : Hand Sanitizer

Restrictions on use : This is a personal care or cosmetic product that is safe for

consumers and other users under normal and reasonably foreseeable use. Cosmetics and consumer products, specifically defined by regulations around the world, are exempt from the requirement of an SDS for the consumer. While this material is not considered hazardous, this SDS contains valuable information critical to the safe handling and proper use of the product for industrial workplace conditions as well as unusual and unintended exposures such as large spills. This SDS should be retained and available for employees and other users of this product. For specific

intended-use guidance, please refer to the information provided on the package or instruction sheet.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Eye irritation : Category 2A

GHS Label element

Hazard pictograms :





Signal Word : Warning

Hazard Statements : H226 Flammable liquid and vapor.

H319 Causes serious eye irritation.



 Version
 Revision Date:
 MSDS Number:
 Date of last issue: 01/15/2015

 1.1
 02/10/2015
 47922-00002
 Date of first issue: 01/15/2015

Precautionary Statements : **Prevention:**

P210 Keep away from heat/sparks/open flames/hot surfaces. -

No smoking.

P233 Keep container tightly closed.

P241 Use explosion-proof electrical/ ventilating/ lighting/

equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately

all contaminated clothing. Rinse skin with water/shower. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/

attention. Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards

Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
Ethanol	64-17-5	>= 50 - < 70
Propan-2-ol	67-63-0	>= 1 - < 5
Glycerine	56-81-5	>= 1 - < 5

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical

advice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : If inhaled, remove to fresh air.

Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap as a precaution.

Get medical attention if symptoms occur.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes.



 Version
 Revision Date:
 MSDS Number:
 Date of last issue: 01/15/2015

 1.1
 02/10/2015
 47922-00002
 Date of first issue: 01/15/2015

If easy to do, remove contact lens, if worn.

Get medical attention.

If swallowed, DO NOT induce vomiting.

Get medical attention if symptoms occur. Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and

delayed

: Causes serious eye irritation.

Protection of first-aiders : First Aid responders should pay attention to self-protection,

and use the recommended personal protective equipment

when the potential for exposure exists.

Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray

Alcohol-resistant foam

Dry chemical

Carbon dioxide (CO2)

Unsuitable extinguishing

media

: High volume water jet

Specific hazards during fire

fighting

Do not use a solid water stream as it may scatter and spread

fire

Flash back possible over considerable distance. Vapors may form explosive mixtures with air.

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

: Carbon oxides

Specific extinguishing

methods

: Use extinguishing measures that are appropriate to local

circumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

so.

Evacuate area.

Special protective equipment

for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Remove all sources of ignition.
Use personal protective equipment.

Follow safe handling advice and personal protective

equipment recommendations.



 Version
 Revision Date:
 MSDS Number:
 Date of last issue: 01/15/2015

 1.1
 02/10/2015
 47922-00002
 Date of first issue: 01/15/2015

Environmental precautions : Discharge into the environment must be avoided.

Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g. by containment or oil

barriers).

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

cannot be contained.

Methods and materials for containment and cleaning up

Non-sparking tools should be used. Soak up with inert absorbent material.

Suppress (knock down) gases/vapors/mists with a water spray

jet.

For large spills, provide diking or other appropriate

containment to keep material from spreading. If diked material

can be pumped, store recovered material in appropriate

container.

Clean up remaining materials from spill with suitable

absorbent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items

employed in the cleanup of releases. You will need to

determine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use with local exhaust ventilation.

Use only in an area equipped with explosion proof exhaust

ventilation.

Advice on safe handling : Do not breathe vapors or spray mist.

Do not swallow. Do not get in eyes.

Avoid prolonged or repeated contact with skin.

Handle in accordance with good industrial hygiene and safety

practice.

Non-sparking tools should be used. Keep container tightly closed.

Keep away from heat and sources of ignition.

Take precautionary measures against static discharges.

Take care to prevent spills, waste and minimize release to the

environment.

Conditions for safe storage : Keep in properly labeled containers.

Keep tightly closed.

Keep in a cool, well-ventilated place.

Store in accordance with the particular national regulations.

Keep away from heat and sources of ignition.

Materials to avoid : Do not store with the following product types:



 Version
 Revision Date:
 MSDS Number:
 Date of last issue: 01/15/2015

 1.1
 02/10/2015
 47922-00002
 Date of first issue: 01/15/2015

Strong oxidizing agents Organic peroxides Flammable solids Pyrophoric liquids Pyrophoric solids

Self-heating substances and mixtures

Substances and mixtures which in contact with water emit

flammable gases

Explosives Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethanol	64-17-5	TWA	1,000 ppm 1,900 mg/m3	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m3	OSHA Z-1
		STEL	1,000 ppm	ACGIH
Propan-2-ol	67-63-0	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
Glycerine	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1

Biological occupational exposure limits

Ingredients	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentratio n	Basis
Propan-2-ol	67-63-0	Acetone	Urine	End of shift at end of work- week	40 mg/l	ACGIH BEI

Engineering measures

Minimize workplace exposure concentrations.

Use only in an area equipped with explosion proof exhaust

ventilation.

Use with local exhaust ventilation.



Version Revision Date: MSDS Number: Date of last issue: 01/15/2015
1.1 02/10/2015 47922-00002 Date of first issue: 01/15/2015

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to

maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn.

Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided

by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other

circumstance where air purifying respirators may not provide

adequate protection.

Hand protection

Material : Impervious gloves

Material : Flame retardant gloves

Remarks : Choose gloves to protect hands against chemicals depending

on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before

breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:

Safety goggles

Skin and body protection : Select appropriate protective clothing based on chemical

resistance data and an assessment of the local exposure

potential.

Wear the following personal protective equipment: Flame retardant antistatic protective clothing.

Skin contact must be avoided by using impervious protective

clothing (gloves, aprons, boots, etc).

Hygiene measures : Ensure that eye flushing systems and safety showers are

located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : gel

Color : colorless, clear, Hazy

Odor : alcohol-like

Odor Threshold : No data available

SAFETY DATA SHEET



PURELL® Waterless Surgical Scrub Gel

Version Revision Date: MSDS Number: Date of last issue: 01/15/2015
1.1 02/10/2015 47922-00002 Date of first issue: 01/15/2015

pH : 2.7 - 4.0

Melting point/freezing point : No data available

Initial boiling point and boiling

range

: No data available

Flash point : 25.6 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapor pressure : No data available

Relative vapor density : No data available

Density : 0.88 g/cm3

Solubility(ies)

Water solubility : soluble

Partition coefficient: n-

octanol/water

: Not applicable

Autoignition temperature : No data available

Decomposition temperature : The substance or mixture is not classified self-reactive.

Viscosity

Viscosity, kinematic : 175 - 1,750 mm2/s (20 °C)

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

: Flammable liquid and vapor.

Vapors may form explosive mixture with air. Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Oxidizing agents



Version Revision Date: MSDS Number: Date of last issue: 01/15/2015
1.1 02/10/2015 47922-00002 Date of first issue: 01/15/2015

Hazardous decomposition

products

: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Skin contact Ingestion Eye contact

Acute toxicity

Not classified based on available information.

Ingredients:

Ethanol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 124.7 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Propan-2-ol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 72.6 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Glycerine:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Result: No skin irritation

Ingredients:

Ethanol:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

Propan-2-ol:

Species: Rabbit

Result: No skin irritation

Glycerine:

Result: No skin irritation



Version Revision Date: MSDS Number: Date of last issue: 01/15/2015
1.1 02/10/2015 47922-00002 Date of first issue: 01/15/2015

Serious eye damage/eye irritation

Causes serious eye irritation.

Ingredients:

Ethanol:

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

Method: OECD Test Guideline 405

Propan-2-ol:

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

Glycerine:

Result: No eye irritation

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

Product:

Assessment: Does not cause skin sensitization.

Ingredients:

Ethanol:

Test Type: Local lymph node assay (LLNA)

Routes of exposure: Skin contact

Species: Mouse Result: negative

Propan-2-ol:

Test Type: Buehler Test

Routes of exposure: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: negative

Germ cell mutagenicity

Not classified based on available information.

Ingredients:

Ethanol:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test

Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)

Species: Mouse

Application Route: Ingestion

Result: negative

Propan-2-ol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative



 Version
 Revision Date:
 MSDS Number:
 Date of last issue: 01/15/2015

 1.1
 02/10/2015
 47922-00002
 Date of first issue: 01/15/2015

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

Glycerine:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Carcinogenicity

Not classified based on available information.

Ingredients:

Propan-2-ol: Species: Rat

Application Route: inhalation (vapor)

Exposure time: 104 weeks

Method: OECD Test Guideline 451

Result: negative

Glycerine:Species: Rat

Application Route: Ingestion Exposure time: 2 Years

Result: negative

IARC No ingredient of this product present at levels greater than or

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

human carcinogen by IARC.

OSHA No ingredient of this product present at levels greater than or

equal to 0.1% is identified as a carcinogen or potential carcino-

gen by OSHA.

NTP No ingredient of this product present at levels greater than or

equal to 0.1% is identified as a known or anticipated carcinogen

by NTP.

Reproductive toxicity

Not classified based on available information.

Ingredients:

Ethanol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Mouse

Application Route: Ingestion Method: OECD Test Guideline 416

Result: negative

Propan-2-ol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study



Version **Revision Date:** MSDS Number: Date of last issue: 01/15/2015 02/10/2015 47922-00002 Date of first issue: 01/15/2015 1.1

Species: Rat

Application Route: Ingestion

Result: negative

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Ingestion

Result: negative

Glycerine:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Result: negative

: Test Type: Embryo-fetal development Effects on fetal development

Species: Rabbit

Application Route: Ingestion

Result: negative

STOT-single exposure

Not classified based on available information.

Ingredients:

Propan-2-ol:

Assessment: May cause drowsiness or dizziness.

STOT-repeated exposure

Not classified based on available information.

Repeated dose toxicity

Ingredients:

Ethanol: Species: Rat

NOAEL: 2,400 mg/kg Application Route: Ingestion

Exposure time: 2 y

Propan-2-ol:

Species: Rat NOAEL: 5000 ppm

Application Route: inhalation (vapor)

Exposure time: 104 w

Method: OECD Test Guideline 413

Glycerine:

Species: Rat

NOAEL: 167 mg/m3 LOAEL: 660 mg/m3

Application Route: inhalation (dust/mist/fume)

Exposure time: 13 w Symptoms: Local irritation



Version Revision Date: MSDS Number: Date of last issue: 01/15/2015
1.1 02/10/2015 47922-00002 Date of first issue: 01/15/2015

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

Ethanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l

Exposure time: 96 h

Toxicity to daphnia and other

aquatic invertebrates

: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l

Exposure time: 48 h

Toxicity to algae : EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to daphnia and other

aquatic invertebrates (Chronic toxicity)

: NOEC (Daphnia magna (Water flea)): 9.6 mg/l

Exposure time: 9 d

Toxicity to bacteria : EC50 (Photobacterium phosphoreum): 32.1 mg/l

Exposure time: 0.25 h

Propan-2-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 10,000 mg/l

Exposure time: 96 h

Toxicity to daphnia and other

aquatic invertebrates

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

Exposure time: 24 h

Toxicity to algae : ErC50 (Scenedesmus quadricauda (Green algae)): > 1,800

mg/l

Exposure time: 8 d

Toxicity to bacteria : EC50 (Pseudomonas putida): > 1,050 mg/l

Exposure time: 16 h

Glycerine:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 54,000 mg/l

Exposure time: 96 h

Toxicity to daphnia and other

aquatic invertebrates

: EC50 (Daphnia magna (Water flea)): 1,955 mg/l

Exposure time: 48 h

Toxicity to bacteria : NOEC (Pseudomonas putida): > 10,000 mg/l

Exposure time: 16 h

Persistence and degradability

Ingredients:



Version Revision Date: MSDS Number: Date of last issue: 01/15/2015
1.1 02/10/2015 47922-00002 Date of first issue: 01/15/2015

Ethanol:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 84 % Exposure time: 20 d

Propan-2-ol:

Biodegradability : Result: rapidly degradable

Glycerine:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 94 % Exposure time: 1 d

Bioaccumulative potential

Ingredients:

Ethanol:

Partition coefficient: n-

octanol/water

: log Pow: -0.35

Propan-2-ol:

Partition coefficient: n-

octanol/water

: log Pow: 0.05

Glycerine:

Partition coefficient: n-

octanol/water

: log Pow: -1.76

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of as unused product.

Empty containers should be taken to an approved waste

handling site for recycling or disposal.

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

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG

UN number : UN 1987

Proper shipping name : ALCOHOLS, N.O.S.



Version Revision Date: MSDS Number: Date of last issue: 01/15/2015
1.1 02/10/2015 47922-00002 Date of first issue: 01/15/2015

(Ethanol, Propan-2-ol)

Class : 3
Packing group : III
Labels : 3

IATA-DGR

UN/ID No. : UN 1987
Proper shipping name : Alcohols, n.o.s.

(Ethanol, Propan-2-ol)

Class : 3 Packing group : III

Labels : Flammable Liquids

: 366

Packing instruction (cargo

aircraft)

Packing instruction : 355

(passenger aircraft)

IMDG-Code

UN number : UN 1987

Proper shipping name : ALCOHOLS, N.O.S.

(Ethanol, Propan-2-ol)

Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-D
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number : UN 1987

Proper shipping name : ALCOHOLS, N.O.S.

Class : 3 Packing group : III

Labels : FLAMMABLE LIQUID

ERG Code : 127 Marine pollutant : no

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

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



Version Revision Date: MSDS Number: Date of last issue: 01/15/2015
1.1 02/10/2015 47922-00002 Date of first issue: 01/15/2015

Acute Health Hazard

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:

Propan-2-ol 67-63-0 3.3893 %

US State Regulations

Pennsylvania Right To Know

 Ethanol
 64-17-5
 50 - 70 %

 Water
 7732-18-5
 20 - 30 %

 Propan-2-ol
 67-63-0
 1 - 5 %

 Glycerine
 56-81-5
 1 - 5 %

New Jersey Right To Know

Ethanol 64-17-5 50 - 70 % Water 7732-18-5 20 - 30 % 1 - 5 % Propan-2-ol 67-63-0 Glycerine 56-81-5 1 - 5 % Isopropyl myristate 110-27-0 1 - 5 % Diisopropyl sebacate 7491-02-3 1 - 5 %

California Prop 65 This product does not contain any chemicals known to the

State of California to cause cancer, birth, or any other

reproductive defects.

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

REACH : All ingredients (pre-)registered or exempt.

TSCA : All chemical substances in this product are either listed on the

TSCA Inventory or are in compliance with a TSCA Inventory

exemption.

DSL : All chemical substances in this product comply with the CEPA

1999 and NSNR and are on or exempt from listing on the

Canadian Domestic Substances List (DSL).

AICS : All ingredients listed or exempt.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), NECSI (Taiwan), TSCA (USA)

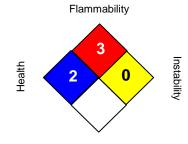


Version Revision Date: MSDS Number: Date of last issue: 01/15/2015
1.1 02/10/2015 47922-00002 Date of first issue: 01/15/2015

SECTION 16. OTHER INFORMATION

Further information

NFPA:



Special hazard.

HMIS III:

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0

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

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit

NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded

at any time during a workday

OSHA Z-1 / TWA : 8-hour time weighted average

Sources of key data used to compile the Material Safety

Data Sheet

: Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

Revision Date : 02/10/2015

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8