

Version 1.2

Revision Date: 03/11/2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	: Isopropanol 99%
Product Use Descrip-	: Alcohol solvent.
tion	

Manufacturer or supplier's details

Company Address : Famis Inc 5689 NW 35th court Miami FL, 33142 United States of America

Emergency telephone number:

Transport North America: CHEMTREC 800.424.9300

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	: Category 2
Eye irritation Specific target organ tox- icity - single exposure	: Category 2A : 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.
Precautionary statements	: Prevention: P210 Keep away from heat, hot surfaces, sparks, open



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	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.
ΝΤΡ	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

Synonyms

: Isopropanol Anhydrous/Isopropyl Alcohol ACS



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Grade/Isopropyl Alcohol/TT I 735 Grade A/Velvasol 425/Value Grade Isopropanol, TT I 735A Grade B

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 person. If symptoms persist, call a physician. 	

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	: High volume water jet
Specific hazards during firefighting	: Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	: Carbon oxides
Specific extinguishing methods	: Use a water spray to cool fully closed containers.
Further information	: Collect contaminated fire extinguishing water sepa- rately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing wa-



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	ter must be disposed of in accordance with local regu- lations. 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

01	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 precau- tions	:	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 non- combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in con- tainer for disposal according to local / national regula- tions (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.
	Open drum carefully as content may be under pres- sure.



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Conditions for safe sto- rage	 Dispose of rinse water in accordance with local and national regulations. No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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 P0

Components with workplace control parameters

Biological occupational exposure limits

Components	CAS-No.	Control parame- ters	Biological specimen		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.
	In the case of vapour formation use a respirator with
	an approved filter.



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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
pH Freezing Point (Melting point/freezing point)	: No data available : -88 °C (-126 °F)
Boiling Point (Boiling point/boiling range)	: 82 °C (180 °F)
Flash point	: 12 °C (54 °F)
Evaporation rate	: 1.2
Flammability (solid, gas)	n-Butyl Acetate : No data available
Burning rate	: No data available
Upper explosion limit	: 12.7 %(V)



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Lower explosion limit	: 2 %(V)
Vapour pressure	: 32 mmHg @ 20 °C (68 °F)
Relative vapour density	: 2 @ 20 °C (68 °F) AIR=1
Relative density	: 0.79 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	: 0.79 g/cm3 @ 20 °C (68 °F)
	6.59 lb/gal @ 20 °C (68 °F)
Bulk density	: No data available
Solubility(ies) Water solubility Solubility in other sol- vents	: completely miscible : 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 normal use.
Chemical stability Possibility of hazardous reactions	: Stable under normal conditions. : Vapours may form explosive mixture with air.
Conditions to avoid	: Heat, flames and sparks.



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Incompatible materials	: Aldehydes Chlorine Ethylene oxide halogens isocyanates Strong acids strong oxidizing agents	
Hazardous decomposition products	: Carbon monoxide, carbon c drocarbons (smoke).	lioxide and unburned hy-

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
<u>Components:</u>	
67-63-0: Acute oral toxicity	: LD50 (rat): 5,045 mg/kg
Acute inhalation toxicity	: LC50 (rat): 16000 ppm
Acute dermal toxicity	: LD50 (rabbit): 12,800 mg/kg
64-17-5: Acute oral toxicity	: LD50 (rat): 7,060 mg/kg
Acute inhalation toxicity	: LC50 (rat): 124.7 mg/l
Acute dermal toxicity	: Remarks: No data available

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation in susceptible persons.



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Components:

67-63-0: Species: rabbit Result: Mild skin irritation

64-17-5:

Species: rabbit Result: No skin irritation

Serious eye damage/eye irritation

Product:

Remarks: Eye irritation

Components:

67-63-0: Species: rabbit Result: Irritating to eyes.

64-17-5:

Species: rabbit Result: Irritating to eyes.

Respiratory or skin sensitisation

Components:

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

<u>Components:</u> 67-63-0:

Genotoxicity in vitro	: Test Type: Ames test Test species: Salmonella typhimurium Result: negative
Genotoxicity in vivo	: Test Type: In vivo micronucleus test Test species: mouse Method: OECD Test Guideline 474 Result: negative
Germ cell mutagenicity-	: Did not show mutagenic effects in animal experi-



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Assessment	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 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: negative GLP: No data available
Germ cell mutagenicity- Assessment	: Mutagenicity classification not possible from current data
Carcinogenicity	

67-63-0: Species rat NOAEL: 5,000 ppm

Method: OECD Test Guideline 451 Carcinogenicity - As- : Not classifiable as a human carcinogen. sessment

64-17-5:

Carcinogenicity - As- sessment	: Carcinogenicity classification not possible from current data.
Reproductive toxicity Components: 67-63-0: 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



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Effects on foetal devel- opment	 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 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	: Fertility classification not possible from current data. Embryotoxicity classification not possible from current data.

STOT - single exposure

Product:No data available

Components: 67-63-0:

Exposure routes:	Target Organs:	Assessment:	Remarks:
Inhalation	Central nervous system	May cause drowsi- ness or dizziness., The substance or mixture is classified as specific target organ toxicant, sin- gle exposure, cate- gory 3 with narcotic effects.	

64-17-5:

Exposure routes:	Target Organs:	Assessment:	Remarks:
Inhalation	Central nervous system	May cause drowsi- ness or dizziness., The substance or mixture is classified as specific target organ toxicant, sin- gle exposure, cate- gory 3 with narcotic effects.	



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Inhalation	Respiratory system	May cause respira- tory irritation., The substance or mix- ture is classified as specific target or- gan toxicant, single exposure, category 3 with respiratory tract irritation.	

STOT - repeated exposure

Product: No data available

Components:

67-63-0:No data available

64-17-5:No data available

Repeated dose toxicity

Components:

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:

64-17-5: No aspiration toxicity classification

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.



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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity			
<u>Components:</u> 67-63-0:			
Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l Exposure time: 96 h		
Toxicity to daphnia and other aquatic inverte- brates	: LC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h		
Toxicity to algae	: Remarks: No data available		
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			
<u>Components:</u> 64-17-5:			
Biodegradability	: Result: Readily biodegradable.		
Bioaccumulative potent	ial		

<u>Components:</u>

64-17-5	
04-1/-5:	



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Mobility in soil No data available	
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 reduc- tion
Contaminated packaging	 Empty remaining contents. Dispose of as unused product. 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, Flash Point:12 °C(54 °F)

IMDG (International Maritime Dangerous Goods): UN1219, ISOPROPANOL, 3, II

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



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SECTION 15. REGULATORY INFORMATION

OSHA Hazards	: Flammable liquid, Moderate eye irritant
WHMIS Classification	: B2: Flammable liquid D2B: Toxic Material Causing Other Toxic Effects

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

CERCLA Reportable Quantity

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

SARA 3	304	Extr	emely	Hazard	lous Su	bstances	Repo	ortable	Qua	ntity	y
			-								

This material does not conta	ain any components wit	h a section 304 EHS RQ.
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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 chemi- cal 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). 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



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	67-63-0	Isopropyl alcohol	90 - 100 %
Pennsylva	ania Right To K	lnow	
	67-63-0	Isopropyl alcohol	90 - 100 %
New Jerse	ey Right To Kn	ow	
	67-63-0	Isopropyl alcohol	90 - 100 %
	64-17-5	Ethanol	0.1 - 1 %
California	Prop 65	•	contain any chemicals known to ause cancer, birth defects, or

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

any other reproductive harm.

The components of this product are reported in the for		-
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 Inven- tory)
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, 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)



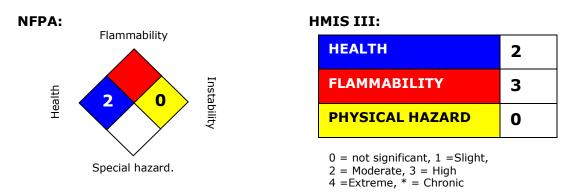
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Korea. Korean Existing Chemicals Inventory (KECI)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	:	y (positive listing) (On the inventory, or in compliance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



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.

Legecy MSDS:

R0001444

Material number:



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16076497, 16070429, 16067144, 16062664, 16062658, 16056234, 16056233, 16056232, 16056231, 16056230, 16056236, 16056235, 16056229, 16056228, 16061245, 16053485, 16052635, 16049720, 16030493, 16030184, 16020147, 16010158, 772812, 772811, 749963, 744289, 744288, 744287, 737212, 728214, 717444, 713300, 667236, 667235, 638919, 628350, 622971, 620243, 607424, 604761, 598538, 584582, 574318, 568108, 554273, 554170, 554086, 554045, 554336, 554300, 550689, 549773, 554335, 554291, 554272, 554257, 554206, 554169, 554149, 554085, 554371, 556671, 547315, 547297, 551361, 544760, 508619, 508618, 508414, 55018, 73136, 55939, 55835, 56756, 105079, 71262, 88592, 54882, 104163, 56760, 88703, 88700, 105097, 87779, 56758, 71396, 56752, 73132, 71401, 56759, 55942, 106250, 152309, 136796, 166706, 89678, 71489, 70529, 89675, 55109

Key or le	gend to abbreviations and ac	ronyms use	d in the safety data sheet
ACGIH	American Conference of Gov-	LD50	Lethal Dose 50%
	ernment Industrial Hygienists		
AICS	Australia, Inventory of Chem-	LOAEL	Lowest Observed Adverse Effect
	ical Substances		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 Scenario Tool	OSHA	Occupational Safety & Health Admin- 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 Reau- thorization Act.
IARC	International Agency for Re- search 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 Sub- stances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical In- ventory	UVCB	Unknown or Variable Compositon, Complex Reaction Products, and Biological Materials



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<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials In- formation System
LC50		Lethal Con	centration 50%