

CEMENTED CARBIDE PRODUCT WITH COBALT/NICKEL BINDER

SECTION 1 Identification of the substance/mixture and of the company/undertaking

Product Identifier

Material Name

CEMENTED CARBIDE PRODUCT WITH COBALT/NICKEL BINDER

Synonyms

CEMENTED TUNGSTEN CARBIDE; CEMENTED CARBIDE PRODUCT WITH COBALT/NICKEL BINDER

Product Use

Cutting tools for machining of various work materials, Fixtures and wear resistance parts for various material

Restrictions on Use

None known.

Details of the supplier of the safety data sheet

TaeguTec

Gachangro 1040(304 Yonggye-ri), Gachang,

Dalsong, Daegu 42936

Korea

Phone: 82-53-760-7451

Emergency phone number

82-53-760-7283

SECTION 2 HAZARDS IDENTIFICATION

Hazard/Risk Classification

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 2A

Respiratory Sensitization - Category 1

Skin Sensitization - Category 1

Carcinogenicity - Category 1A

Reproductive Toxicity - Category 1B

Specific target organ toxicity - Single exposure - Category 1 (kidneys , respiratory system)

Specific target organ toxicity - Repeated exposure - Category 1 (respiratory system)

Hazardous to the Aquatic Environment - Chronic - Category 3

Label elements

Hazard symbols



Signal word

Danger

Hazard/Risk Statement

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H370 Causes damage to organs.

H372 Causes damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P260.1 Do not breathe dusts or mists.

P264 Wash thoroughly after handling.

P280.2 Wear protective gloves and eye/face protection.

P285 In case of inadequate ventilation wear respiratory protection.

P272 Contaminated work clothing should not be allowed out of the workplace.

P270 Do not eat, drink or smoke when using this product.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P281 Use Personal Protective equipment as required.

P273 Avoid release to the environment.

Response

P307 IF exposed.

P311 Call a POISON CENTER or doctor/physician.

P304 IF INHALED.

P341 If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P342 If experiencing respiratory symptoms.

P311 Call a POISON CENTER or doctor/physician.

P302 IF ON SKIN.

P352 Wash with plenty of water.

P333 If skin irritation or rash occurs.

P313 Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash before reuse.

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 If eye irritation persists.

P313 Get medical advice/attention.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Statement(s) of Unknown Aquatic Toxicity

0% of the mixture consists of ingredient(s) of unknown chronic aquatic toxicity.

Other Hazards Which Do Not Result in Classification

May form combustible dust concentrations in air (during handling or processing).

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Chemical name	Other Names	Percent
12070-12-1	TUNGSTEN CARBIDE	--	60 - 96
7440-48-4	COBALT	--	0 - 30
7440-02-0	NICKEL	--	0 - 20
12070-06-3	TANTALUM CARBIDE	--	0 - 15
12070-08-5	TITANIUM CARBIDE	--	0 - 15
12627-33-7	TITANIUM CARBO-NITRIDE	--	0 - 10
12710-36-0	NICKEL CARBIDE	--	0 - 10
12070-10-9	VANADIUM CARBIDE	--	0 - 5
12012-35-0	CHROMIUM CARBIDE	--	0 - 5

Impurities and stabilizing additives contributing to the GHS Classification

None

SECTION 4 FIRST AID MEASURES

Eye contact

Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Then get immediate medical attention.

Skin contact

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Ingestion

If swallowed, get medical attention.

Most Important Symptoms/Effects

Symptoms: Immediate

respiratory tract irritation, skin irritation, eye irritation, allergic reactions, kidney damage, respiratory system damage

Symptoms: Delayed

allergic reactions, cancer, Reproductive Effects, respiratory system damage

Indication of any immediate medical attention and special treatment needed

Inhalation: Consider oxygen.

SECTION 5 FIRE FIGHTING MEASURES**Suitable extinguishing media**

dolomite, dry powder for metal fires, Dry sand, graphite, soda ash, sodium chloride, Do not get water directly on material.

Unsuitable Extinguishing Media

None known.

Specific hazards arising from the chemical

Negligible fire and explosion hazard in bulk form. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear personal protective clothing and equipment, see Section 8.

Environmental precautions

Avoid release to the environment.

Methods for Containment

Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. If sweeping of a contaminated area is necessary, use a dust suppressant agent.

Cleanup Methods

Collect spill using a vacuum cleaner with a HEPA filter or wet and scoop up dry spills. Avoid sweeping spilled dry material. Eliminate ignition sources including sources of electrical, static or frictional sparks. Small spills: Collect spilled material in appropriate container for disposal. Move containers away from spill to a safe area. Large spills: Wet down area with water. Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Do not breathe dust. Wash thoroughly after handling. Wear suitable protective gloves and eye/face protection. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing must not be allowed out of the workplace. Do not eat, drink, or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use Personal Protective equipment as required.

Conditions for safe storage, including any incompatibilities

Store locked up.

Store and handle in accordance with all current regulations and standards. Avoid generating dust. See original container for storage recommendations. Keep separated from incompatible substances.

Incompatible Materials

no data available.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Guidelines

Component Exposure Limits

TUNGSTEN CARBIDE	12070-12-1
ACGIH:	3 mg/m ³ TWA (in the absence of cobalt) as W respirable particulate matter (related to Tungsten compounds)
COBALT	7440-48-4
Korea:	0.02 mg/m ³ TWA
ACGIH:	0.02 mg/m ³ TWA
NICKEL	7440-02-0
Korea:	1 mg/m ³ TWA (metal)
ACGIH:	1.5 mg/m ³ TWA inhalable particulate matter

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

COBALT (7440-48-4)

15 µg/l Medium: urine Time: end of shift at end of workweek Parameter: Cobalt (nonspecific)

Appropriate engineering controls

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust or process enclosure ventilation system. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT**Eye/face protection**

Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and Body Protection

Wear appropriate chemical resistant clothing.

Hand protection

Wear appropriate chemical resistant gloves.

Protective Materials

No data available.

Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100 or P100. Any air-purifying full-facepiece respirator equipped with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100 or P100. Any air-purifying respirator with a high-efficiency particulate filter. Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode. For Unknown Concentrations or Immediately Dangerous to Life or Health -. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Further information

No data available.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	solid	Upper Explosive Limit	Not available
Physical State	solid	Lower Explosive Limit	Not available
Physical Form	solid	Vapor Pressure	Not available
Color	Not available	Solubility (Other)	Not available
Odor	Not available	Water Solubility	Not available
Odor Threshold	Not available	Vapor Density (air=1)	Not available
pH	Not available	Specific Gravity (water=1)	Not available
Melting Point	Not available	Partition coefficient: n-octanol/water	Not available
Freezing point	Not available	Autoignition Temperature	Not available
Boiling Point	Not available	Decomposition temperature	Not available
Boiling Point Range	Not available	Viscosity	Not available
Flash Point	(Not flammable)	Molecular Weight	Not available
Evaporation Rate	Not available	Density	Not available
Flammability (solid, gas)	Not flammable		

SECTION 10 STABILITY AND REACTIVITY
Reactivity

No reactivity hazard is expected.

Chemical stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize.

Conditions to avoid

Avoid accumulation of airborne dusts. Avoid heat, flames, sparks and other sources of ignition.

Materials to Avoid (Incompatibilities)

no data available.

Hazardous Decomposition Products

miscellaneous decomposition products.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

Skin

Eye

eye irritation

Ingestion

Health Hazards

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

COBALT (7440-48-4)

Oral LD50 Rat 6171 mg/kg

Inhalation LC50 Rat >10 mg/L 1 h

NICKEL (7440-02-0)

Oral LD50 Rat >9000 mg/kg

Acute Toxicity Estimate

Oral	> 2000 mg/kg
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Immediate Effects

respiratory tract irritation, skin irritation, eye irritation, allergic reactions, kidney damage, respiratory system damage

Delayed Effects

allergic reactions, cancer, Reproductive Effects, respiratory system damage

Skin corrosive/irritant

skin irritation.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory Sensitization

Component data indicate the substance is sensitizing.

Dermal Sensitization

Component data indicate the substance is sensitizing.

Component Carcinogenicity

COBALT	7440-48-4
Korea:	2 - Limited evidence of human or animal carcinogenicity (metal dust and fume)
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC:	Monograph 86 [2006] (without tungsten carbide); Monograph 52 [1991] (Group 2B (possibly

	carcinogenic to humans))
NTP:	Reasonably Anticipated To Be A Human Carcinogen
DFG:	Category 2 (considered to be carcinogenic for man)
OSHA:	Present
NICKEL	7440-02-0
Korea:	2 - Limited evidence of human or animal carcinogenicity (metal)
ACGIH:	A5 - Not Suspected as a Human Carcinogen
IARC:	Monograph 100C [2012] ; Monograph 49 [1990] (evaluated as a group) (related to Nickel compounds) (Group 1 (carcinogenic to humans))
IARC:	Monograph 49 [1990] ; Supplement 7 [1987] (Group 2B (possibly carcinogenic to humans))
NTP:	Known Human Carcinogen (related to Nickel compounds)
NTP:	Reasonably Anticipated To Be A Human Carcinogen
DFG:	Category 1 (causes cancer in man)
OSHA:	Present
NIOSH:	potential occupational carcinogen
NICKEL CARBIDE	12710-36-0
IARC:	Monograph 100C [2012] ; Monograph 49 [1990] (evaluated as a group) (related to Nickel compounds) (Group 1 (carcinogenic to humans))
NTP:	Known Human Carcinogen (related to Nickel compounds)
DFG:	Category 1 (causes cancer in man) (related to Nickel compounds)
OSHA:	Present (related to Nickel compounds)
NIOSH:	potential occupational carcinogen (related to Nickel compounds)

Mutagenic Data

No data available for the mixture.

Reproductive Effects Data

Available data characterizes this substance as a reproductive hazard.

Tumorigenic Data

No data available for the mixture.

Specific Target Organ Toxicity - Single Exposure

respiratory system, kidneys

Specific Target Organ Toxicity - Repeated Exposure

respiratory system

Aspiration hazard

no data available.

Medical Conditions Aggravated by Exposure

respiratory disorders, immune system disorders or allergies, skin disorders and allergies

Additional Data

May cross the placenta. Alcohol may enhance the toxic effects. May be excreted in breast milk.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Component Analysis - Aquatic Toxicity

COBALT	7440-48-4
Fish:	LC50 96 h Brachydanio rerio >100 mg/L [static]
NICKEL	7440-02-0
Fish:	LC50 96 h Brachydanio rerio >100 mg/L; LC50 96 h Cyprinus carpio 1.3 mg/L [semi-static]; LC50 96 h Cyprinus carpio 10.4 mg/L [static]
Algae:	EC50 72 h Pseudokirchneriella subcapitata 0.18 mg/L IUCLID ; EC50 96 h Pseudokirchneriella subcapitata 0.174 - 0.311 mg/L [static] EPA
Invertebrate:	EC50 48 h Daphnia magna >100 mg/L IUCLID ; EC50 48 h Daphnia magna 1 mg/L [Static] EPA

Persistence and degradability

No information available for the mixture.

Bioaccumulative Potential

No data available for the mixture.

Mobility in soil

No data available for the mixture.

Other adverse effects

No additional information is available.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal Methods

If regulated under Waste Management Act, dispose the contaminated container and packaging in accordance with the regulations.

Disposal Precaution

Dispose in accordance with all applicable regulations including the disposal methods of contaminated container and packaging.

SECTION 14 TRANSPORT INFORMATION

IATA Information:

UN#: No classification assigned

Shipping Name: True

Marine pollutant Not a marine pollutant

ICAO Information:

UN#: No classification assigned

Shipping Name: True

Marine pollutant Not a marine pollutant

IMDG Information:

UN#: No classification assigned

Shipping Name: True

Marine pollutant Not a marine pollutant

Component Marine Pollutants (IMDG)

Not a marine pollutant.

International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Special precautions

None known.

SECTION 15 REGULATORY INFORMATION

Korea Regulations

Industrial Safety and Health Act

TUNGSTEN CARBIDE	12070-12-1
Hazardous Substances Subject to Control:	

Metals:	1 % cut-off value allowed in mixture (related to Tungsten compounds)
Harmful Agents Subject to Work Environment Monitoring (Measurement Cycle: 6 months):	
Metals:	1 % cut-off value allowed in mixture (related to Tungsten compounds)
Harmful Agents Subject to Workers Requiring Health Examination (Diagnostic cycle : 12 Months):	
Metals:	1 % maximum cut-off value allowed in mixture (as W) (related to Tungsten compounds)
NICKEL	7440-02-0
Hazardous Substances Subject to Control:	
Metals:	1 % cut-off value allowed in mixture
Harmful Agents Subject to Work Environment Monitoring (Measurement Cycle: 6 months):	
Metals:	1 % cut-off value allowed in mixture
Harmful Agents Subject to Workers Requiring Health Examination (Diagnostic cycle : 12 Months):	
Metals:	1 % maximum cut-off value allowed in mixture
Occupational exposure limit values:	
TWA.	1 mg/m3 TWA (metal) Serial No. 045
Carcinogen	2 - Limited evidence of human or animal carcinogenicity (metal) Serial No. 045
COBALT	7440-48-4
Hazardous Substances Subject to Control:	
Metals:	1 % cut-off value allowed in mixture
Harmful Agents Subject to Work Environment Monitoring (Measurement Cycle: 6 months):	

Metals:	1 % cut-off value allowed in mixture
Harmful Agents Subject to Workers Requiring Health Examination (Diagnostic cycle : 12 Months):	
Metals:	1 % maximum cut-off value allowed in mixture (dust, fume)
Occupational exposure limit values:	
TWA.	0.02 mg/m3 TWA Serial No. 519
Carcinogen	2 - Limited evidence of human or animal carcinogenicity (metal dust and fume) Serial No. 519
NICKEL CARBIDE	12710-36-0
Hazardous Substances Subject to Control:	
Metals:	1 % cut-off value allowed in mixture (related to Nickel compounds)
Harmful Agents Subject to Work Environment Monitoring (Measurement Cycle: 6 months):	
Metals:	1 % cut-off value allowed in mixture (related to Nickel compounds)
ZIRCONIUM CARBIDE	12070-14-3
Hazardous Substances Subject to Control:	
Metals:	1 % cut-off value allowed in mixture (related to Zirconium compounds)
Harmful Agents Subject to Work Environment Monitoring (Measurement Cycle: 6 months):	
Metals:	1 % cut-off value allowed in mixture (related to Zirconium compounds)
Harmful Agents Subject to Workers Requiring Health Examination (Diagnostic cycle : 12 Months):	
Metals:	1 % maximum cut-off value allowed in mixture (as Zr) (related to Zirconium compounds)

Occupational exposure limit values:	
TWA.	5 mg/m ³ TWA as Zr Serial No. 489 (related to Zirconium compounds)
STEL	10 mg/m ³ STEL as Zr Serial No. 489 (related to Zirconium compounds)

Chemicals Control Act (CCA)

None of the substances are regulated under the Chemicals Control Act.

Dangerous Materials Safety Control Act

The following component(s) are listed on the Dangerous Materials Safety Control Act.

MOLYBDENUM	7439-98-7
Class 2 Flammable Solids:	Class 2. Flammable solids 5. Metal powder 500 kg (powder)

Waste Management Act

Not applicable

Other requirements in domestic and other countries

No data available.

Component Analysis - Inventory

TITANIUM CARBO-NITRIDE (12627-33-7)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR REACH CCA	-	CN	NZ	MX	TW	VN (Draft)
No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

TUNGSTEN CARBIDE (12070-12-1)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR REACH CCA	-	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	

NICKEL (7440-02-0)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR REACH CCA	-	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	

COBALT (7440-48-4)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR REACH - CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes

MOLYBDENUM (7439-98-7)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR REACH - CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes

NICKEL CARBIDE (12710-36-0)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR REACH - CCA	CN	NZ	MX	TW	VN (Draft)
No	DSL	No	No	No	No	No	No	No	No	No	No	No	Yes	No

TANTALUM CARBIDE (12070-06-3)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR REACH - CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	No	No	Yes	Yes	Yes	No	No	No	No	No	Yes	No

TITANIUM CARBIDE (12070-08-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR REACH - CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	No	No	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes

ZIRCONIUM CARBIDE (12070-14-3)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR REACH CCA	-	CN	NZ	MX	TW	VN (Draft)
Yes	NSL	EIN	No	No	Yes	Yes	Yes	No	No	No	No	No	No	Yes	No

SECTION 16 OTHER INFORMATION

NFPA Ratings

Health: 2 Fire: 3 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Information sources and references

No data available.

Preparation Date

Revision date

01/18/2019

Issue Date

04/24/2013

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand;

OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN NCI (Draft) - Vietnam National Chemicals Inventory (NCI) (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada) .

Other Information

Disclaimer:

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