



SAFETY DATA SHEET

1. Identification

Product identifier	NT™ Precision Cleaner
Other means of identification	
Product code	02205
Recommended use	Precision electronics cleaner
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufactured or sold by:	
Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols Gases under pressure	Category 2 Compressed gas
Health hazards	Acute toxicity, oral Serious eye damage/eye irritation Specific target organ toxicity, single exposure Aspiration hazard	Category 4 Category 2A Category 3 narcotic effects Category 1
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	
Label elements		

Signal word Danger

Hazard statement Flammable aerosol. Contains gas under pressure; may explode if heated. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause drowsiness or dizziness. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing gas, mist or vapor. Do not eat, drink or smoke when using this product. Wear protective gloves and eye/face protection. Wash hands thoroughly after handling. Avoid release to the environment.

Response

If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. Rinse mouth. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage

Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.

Disposal

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

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

35.61% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.
When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride and possibly phosgene.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
COzol® 201		Proprietary	80 - 90
Carbon dioxide		124-38-9	5 - 10
Decafluoropentane	HFC 43-10mee	138495-42-8	5 - 10
COzol® 202		Proprietary	1 - 3
Methanol		67-56-1	< 0.2

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT give epinephrine (adrenaline). Call a POISON CENTER or doctor/physician.
Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis. Immediately give 2 glasses of water. Do NOT give stimulants. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause drowsiness or dizziness.
Indication of immediate medical attention and special treatment needed	Because of possible disturbances of cardiac rhythm, catecholamine drugs such as adrenaline should be used with special caution and only in situations of emergency life support. Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Powder. Water. Water spray. Foam. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride and possibly phosgene.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. In the event of fire, cool tanks with water spray.
General fire hazards	Flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Avoid breathing gas. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop the flow of material, if this is without risk. Collect spillage. Dike far ahead of spill for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Do not taste or swallow. Avoid breathing mist or vapor. Avoid breathing gas. Avoid contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
Methanol (CAS 67-56-1)	PEL	5000 ppm
		260 mg/m3
		200 ppm
Trans-1,2-dichloroethylene (CAS 156-60-5)	PEL	790 mg/m3
		200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
Methanol (CAS 67-56-1)	TWA	5000 ppm
	STEL	250 ppm
	TWA	200 ppm
Trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
		9000 mg/m3
Methanol (CAS 67-56-1)	STEL	5000 ppm
		325 mg/m3
		250 ppm
		260 mg/m3
Trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	200 ppm
		790 mg/m3
		200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
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Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*
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* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Methanol (CAS 67-56-1)	Can be absorbed through the skin.
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US - Minnesota Haz Subs: Skin designation applies

Methanol (CAS 67-56-1)	Skin designation applies.
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US - Tennessee OELs: Skin designation

Methanol (CAS 67-56-1)	Can be absorbed through the skin.
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US ACGIH Threshold Limit Values: Skin designation

Methanol (CAS 67-56-1)	Can be absorbed through the skin.
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US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Methanol (CAS 67-56-1)	Can be absorbed through the skin.
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Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
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Skin protection

Hand protection	Wear protective gloves such as: Nitrile. Neoprene. Polyvinyl alcohol (PVA). Viton®.
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Other	Wear appropriate chemical resistant clothing.
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Respiratory protection	Wear positive pressure self-contained breathing apparatus (SCBA). Air monitoring is needed to determine actual employee exposure levels.
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Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
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General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Aerosol.
Color	Clear. Colorless.

Odor	Slight ethereal.
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Odor threshold	Not available.
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pH	Not available.
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Melting point/freezing point	-112 °F (-80 °C) estimated
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Initial boiling point and boiling range	104.2 °F (40.1 °C) estimated
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Flash point	None (Tag Closed Cup)
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Evaporation rate	Fast.
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Flammability (solid, gas)	Not available.
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Upper/lower flammability or explosive limits

Flammability limit - lower (%)	2 % estimated
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Flammability limit - upper (%)	19.9 % estimated
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Vapor pressure	3337.6 hPa estimated
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Vapor density	> 1 (air = 1)
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Relative density	1.27 estimated
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Solubility (water)	Slight.
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Partition coefficient (n-octanol/water)	Not available.
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Auto-ignition temperature	860 °F (460 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	95 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride and possibly phosgene.
Incompatible materials	Strong oxidizing agents. Strong bases. Strong acids. Caustics. Alkali metals. Alkaline earth metals. Powdered metal.
Hazardous decomposition products	Carbonyl halides. Hydrogen fluoride. Hydrogen chloride. Phosgene. Formaldehyde. Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Harmful if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Inhalation	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. With high exposure levels, effects can include central nervous system (CNS) depression, unconsciousness and cardiac arrhythmia. Product vapors displace air and can cause suffocation especially in a confined space.
Skin contact	Prolonged skin contact may cause temporary irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways. Narcotic effects.
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Product	Species	Test Results
NT™ Precision Cleaner		
Acute		
<i>Dermal</i>		
LD50	Rabbit	7655.7324 mg/kg estimated
<i>Inhalation</i>		
LC50	Rat	44278.8555 ppm, 4 hours estimated 950.1813 mg/l, 4 hours estimated
<i>Oral</i>		
LD50	Rat	1663.499 mg/kg estimated
Subchronic		
<i>Inhalation</i>		
LC50	Rat	7352.2656 ppm, 90 days estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	Not expected to be hazardous by OSHA criteria.

Specific target organ toxicity - single exposure	Narcotic effects.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be fatal if swallowed and enters airways. If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product			Species	Test Results
NT™ Precision Cleaner				
<i>Acute</i>				
Crustacea	EC50	Daphnia	84.7297 mg/l, 48 hours estimated	
Fish	LC50	Fish	94.6127 mg/l, 96 hours estimated	
Components			Species	Test Results
Decafluoropentane (CAS 138495-42-8)				
<i>Acute</i>				
Other	EC50	Pseudokirchnerella subcapitata	> 120 mg/l, 72 hours	
Aquatic				
<i>Acute</i>				
Crustacea	EC50	Water flea (Daphnia magna)	11.7 mg/l, 48 hours	
Fish	LC50	Fathead minnow (Pimephales promelas)	27.2 mg/l, 96 hours	
		Rainbow trout,donaldson trout (Oncorhynchus mykiss)	13.9 mg/l, 96 hours	
		Zebra danio (Danio rerio)	13 mg/l, 96 hours	
<i>Chronic</i>				
Crustacea	NOEC	Water flea (Daphnia magna)	1.72 mg/l, 21 days	
Methanol (CAS 67-56-1)				
Aquatic				
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours	
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours	

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Decafluoropentane	2.7, Pow at 20 °C
Methanol	-0.77

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products	The dispensed liquid product is not a RCRA hazardous waste (See 40 CFR Part 261.20 - 261.33). Empty container can be recycled. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.
Hazardous waste code	Not regulated.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT	
UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1

Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Decafluoropentane (CAS 138495-42-8)	1.0 % One-Time Export Notification only.
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SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Trans-1,2-dichloroethylene (CAS 156-60-5)

CERCLA Hazardous Substances: Reportable quantity

Trans-1,2-dichloroethylene (CAS 156-60-5) 1000 lbs

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Immediate Hazard - Yes
Hazard categories Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

US state regulations**US. New Jersey RTK - Substances: Listed substance**

Carbon dioxide (CAS 124-38-9)
Methanol (CAS 67-56-1)
Trans-1,2-dichloroethylene (CAS 156-60-5)

US. Massachusetts RTK - Substance List

Carbon dioxide (CAS 124-38-9)
Trans-1,2-dichloroethylene (CAS 156-60-5)

US. Pennsylvania RTK - Hazardous Substances

Carbon dioxide (CAS 124-38-9)
Methanol (CAS 67-56-1)
Trans-1,2-dichloroethylene (CAS 156-60-5)

US. Rhode Island RTK

Methanol (CAS 67-56-1)
Trans-1,2-dichloroethylene (CAS 156-60-5)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (CAS 67-56-1) Listed: March 16, 2012

Volatile organic compounds (VOC) regulations**EPA**

VOC content (40 CFR 51.100(s)) 57.5 %

Consumer products (40 CFR 59, Subpt. C) Not regulated

State

Consumer products This product is regulated as an Electronic Cleaner. This product is not compliant to be sold for use in California. This product is compliant in all other states.

VOC content (CA) 95 %

VOC content (OTC) 57.5 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-04-2014
Prepared by Allison Cho

Version #	01
Further information	CRC # 657B
HMIS® ratings	Health: 2 Flammability: 2 Physical hazard: 1 Personal protection: B
NFPA ratings	Health: 2 Flammability: 2 Instability: 1
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