SAFETY DATA SHEET

Cadmium oxide

SECTION 1: IDENTIFICATION

Product identifier used on a label:	**Cadmium oxide**
Product code:	2105BUS
Recommended use of the chemical and restrictions on use:	Industrial use only.
Chemical family:	Pure chemical.
Name, address and phone # of supplier:	Aqua Bond Inc. 440 Passmore ave. Scarborough, ON, M1V 5J8 (416) 754-7211
24 Hr. Emergency phone #	**CANUTEC (613) 996-6666**

SECTION 2: HAZARDS IDENTIFICATION

Classification of the chemical: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:
ACUTE TOXICITY, ORAL-CATEGORY 3
ACUTE TOXICITY, INHALATION- CATEGORY 2
MUTAGENICITY- CATEGORY 2
CARCINOGENICITY- CATEGORY 1B
REPRODUCTIVE TOXICITY- CATEGORY 2
STOT-RE-CATEGORY 1
AQUATIC ACUTE- CATEGORY 1
AQUATIC CHRONIC- CATEGORY 1

Label elements:



Signal word: DANGER

Hazard statements:
H301 Toxic if swallowed
H330 Fatal if inhaled
H341 Suspected of causing genetic defects
H350 May cause cancer
H361 Suspected of damaging fertility or the unborn child
H372 Causes damage to organs through prolonged or repeated exposure
H410 Very toxic to aquatic life with long lasting effects

Precautionary statements:
P270 Do not eat, drink or smoke when using this product.
P281 Use personal protective equipment as required.
P273 Avoid release to the environment.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P501 Dispose of contents/container to This material and its container must be disposed of in a safe way, and as per local legislation.

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Other hazards: Not available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/ mixture: Pure substance

Ingredient name	CAS Number	Concentration (%)
Cadmium oxide	1306-19-0	100

SECTION 4: FIRST-AID MEASURES

Description of first aid measures:

Ingestion	Do not induce vomiting. Immediately call a POISON CENTRE or doctor. Give water to drink if victim is completely conscious.
Inhalation	Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor.
Skin contact	For even minor contact, immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention.
Eye contact	Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists.

Most important symptoms and effects, both acute and delayed:

Dust from this product may cause irritation to the respiratory tract. Cough, abdominal pain. Gastrointestinal complaints such as nausea, vomiting, abdominal pain, burning sensation and cramping are possible after ingestion.

Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable	Carbon dioxide, foam, water fog, powder.
Unsuitable	None known.
Special hazards arising from the substance:	Not explosive.
Hazardous thermal decomposition products:	Not available.
Special protective actions for fire-fighters:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapours. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Environmental precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods and materials for containment and cleaning up:	Contain spillage and then collect using electrically protected vacuum cleaner or by wet-brushing and place in container for disposal.
Special spill response procedures:	In case of transportation accident, contact CHEMTREC at 1-800-424-9300.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Wear personal protective equipment to avoid direct contact with this chemical. Avoid generating dusts. Only use where there is adequate ventilation. Do not expose to temperatures above 50°C. Prevent accidental contact with incompatible chemicals. Keep containers tightly closed when not in use or empty. Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area.
Conditions for safe storage:	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be resealed and kept upright. Do not store in unlabeled containers.
Incompatible materials:	Bases, oxidizing agents, reducing agents, phosphorus oxychloride.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Exposure limits

Ingredient	***Exposure limits***
Cadmium oxide	**OSHA PEL:** 0.005 mg/m^3 TWA **ACGIH TLV:** 0.01 mg/m^3 (total dust) TWA, 0.002 mg/m^3 (respirable dust) TWA

Engineering controls:	Use with adequate ventilation to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Individual protection measures:	Eyes/face: Chemical splash goggles and face shield. Skin: Chemical-resistant, impervious gloves (nitrile rubber, neoprene, butyl rubber) complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Personal protective equipment for the body should be selected

based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory: Dust/aerosol mask with filter type P3.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Red brown solid.
Odor:	Odorless.
Odor threshold:	Not available.
pH:	Not applicable.
Melting point:	Sublimation at 950°C
Freezing point:	950°C
Initial boiling point and boiling range:	Not applicable.
Flash point:	Not applicable.
Evaporation rate:	Not applicable.
Flammability:	Not flammable.
Upper and lower flammability limits:	Not applicable.
Vapour pressure:	Not applicable.
Vapour density:	Not applicable.
Relative density:	8.26 g/cm³ (20°C)
Solubility:	Slightly soluble in water.
Partition coefficient n-octanol/water:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	None known.
Chemical stability:	Stable.
Possibility of hazardous reactions:	None known.
Conditions to avoid:	Incompatible materials.
Incompatible materials:	Alkaline substances, acids, magnesium.
Hazardous decomposition products:	Will not decompose under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure:	SKIN AND EYES: yes INHALATION: yes INGESTION: yes
Potential health effects (acute):	EYE: May cause eye irritation. INHALATION: Fatal if inhaled. SKIN: May cause irritation. INGESTION: Toxic if swallowed.
Delayed and immediate effects, chronic effects	Cadmium dust and fume have both acute and chronic health effects. Cadmium dust is a pulmonary irritant. Freshly formed cadmium fume is an

from short and long term exposure:	intense pulmonary irritant, resulting in respiratory distress and possible pulmonary edema that may develop as much as 48 hours after exposure. In severe cases death may result.
Potential chronic health effects:	Long term exposures may cause kidney dysfunction and lung injury (emphysema) as well as other symptoms.
Carcinogenicity:	Cadmium is classified as a carcinogen or probable carcinogen by IARC, ACGIH, NTP, OSHA and the EU.
Mutagenicity:	Suspected of causing genetic defects.
Teratogenicity:	No known significant effects or critical hazards.
Developmental effects:	No known significant effects or critical hazards.
Fertility effects:	Suspected of damaging fertility or the unborn child.
Sensitization:	No known significant effects or critical hazards.

Toxicological effects:

Acute toxicity:

Product	***Result***	***Species***	***Dose***	***Exposure***
Cadmium oxide	LD50 oral	Rat	63-259 mg/kg	-
	LC50 inhalation	Rat	0.0008-0.066 mg/L	4 hours

Aspiration hazard: No known significant effects or critical hazards.

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Name	**Result**	**Species**	**Exposure**
Cadmium	LC50 0.034-6.47 mg/L	Salmo salar	-
	EC50 0.036 mg/L	Daphnia magna	-

Persistence and degradability:	Not available.
Bioaccumulative potential:	Not bioaccumulative.
Mobility in soil:	Log Koc 2.45 (pH 6.5)

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: TRANSPORT INFORMATION

	TDG
UN Number:	UN2570
UN proper shipping name:	Cadmium compound.
Transport hazard class:	6.1
Packing group:	I
Environmental hazard:	Yes.
Special precautions for user:	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: REGULATORY INFORMATION

Canada inventory (DSL): Listed.

SECTION 16: OTHER INFORMATION

Revision date: September 8, 2017

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

Disclaimer

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