

MATERIAL SAFETY DATA SHEET

CARBOXYMETHYLCELLULOSE GUM, AQUALON

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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WHMIS#: 00067678
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Website: <http://www.brenntag.ca>

EMERGENCY TELEPHONE NUMBERS (FOR EMERGENCIES INVOLVING CHEMICAL SPILLS OR RELEASE)

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Edmonton, AB (780) 424-1754

Montreal, QC (514) 861-1211
Calgary, AB (403) 263-8660

Winnipeg, MB (204) 943-8827
Vancouver, BC (604) 685-5036

PRODUCT IDENTIFICATION

Product Name: Carboxymethylcellulose Gum, Aqualon.
Chemical Name: Cellulose, Carboxymethyl ether, Sodium Salt.
Synonyms: CMC 7H, 7H3SCF, 7H3SF, 7H3SF PH, 7H3SXF, 7HF PH, 7H4CF, 7H4XF, 7H4HC4F, 7HCF, 7HF, 7HOF PH, 7HOXF, 7HOF PH EP, 7HX, 7HX4U, 7HXF, 7HXF PH, 7L, 7L2, 7L2P, 7LF, 7LF PH, 7LT, 7LXF, 7M, 7M8SF, 7M8SF PH, 7M8SF PH 4060, 7MCF, 7MCT TG, 7MF, 7MF PH, 7MT, 7MXF, 9H4F, 9H4XF, 9M31F, 9M31X9T, 9M31XF, 9M8F, 12M31P, Blanose CMC 7LIT; Sodium Carboxymethyl Cellulose; Aqualon cellulose gum (CMC purified).
Chemical Family: Sodium salts.
Molecular Formula: Not available.
Product Use: Chemical intermediate.

WHMIS Classification / Symbol:

Not regulated.

READ THE ENTIRE MSDS FOR THE COMPLETE HAZARD EVALUATION OF THIS PRODUCT.

2. COMPOSITION, INFORMATION ON INGREDIENTS (Not Intended As Specifications)

<i>Ingredient</i>	<i>CAS#</i>	<i>ACGIH TLV</i>	<i>% Concentration</i>
Sodium Carboxymethyl Cellulose	9004-32-4	---	99 - 100

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Mechanical hazard. Dust may cause mechanical irritation to skin, eyes and respiratory tract. Low hazard for usual industrial or commercial handling. See "Other Health Effects" Section. Powdered material may form explosive dust-air mixtures. Can decompose at high temperatures forming toxic gases.

POTENTIAL HEALTH EFFECTS

Inhalation: Product may be mildly irritating to the nose, throat and respiratory tract and may cause coughing and sneezing. Excessive contact with powder may cause drying of mucous membranes of nose and throat due to absorption of moisture and oils. See "Other Health Effects" Section.

Skin Contact: This product may cause irritation due to abrasive action. Excessive contact with powder may cause drying of the skin due to absorption of moisture and oils. May cause defatting, drying and cracking of the skin. Prolonged and repeated contact may lead to dermatitis.

Skin Absorption: Not likely to be absorbed through the skin.

Eye Contact:	This product may cause irritation, redness and possible damage due to abrasiveness. Excessive contact with powder may cause drying of mucous membranes of the eyes due to absorption of moisture and oils. Product residues on fingers, hands or gloves may contact the eyes and cause eye irritation, redness and pain.
Ingestion:	Ingestion of large doses can have cathartic (laxative) effects. This product may cause mild gastrointestinal discomfort. May cause diarrhea, nausea and vomiting.
Other Health Effects:	Low hazard for usual industrial or commercial handling. Sodium salts have a hypothetical risk of hypernatremia. Hypernatraemia is a term that describes an abnormally high plasma concentration of sodium ions. This condition may lead to weakness, restlessness, dizziness, headache, convulsions and coma. (4) In general, long-term exposure to high concentrations of dust may cause increased mucous flow in the nose and respiratory system airways. This condition usually disappears after exposure stops. Controversy exists as to the role exposure to dust has in the development of chronic bronchitis (inflammation of the air passages into the lungs). Other factors such as smoking and general air pollution are more important, but dust exposure may contribute. (4) May cause pneumoconiosis. Pneumoconiosis is the deposition of dust in the lungs and the tissue's reaction to its presence. When exposure to the dust is severe or prolonged, the lungs' defenses are overwhelmed.

4. FIRST AID MEASURES

FIRST AID PROCEDURES

Inhalation:	If respiratory problems arise, move the victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical advice IMMEDIATELY.
Skin Contact:	Start flushing while removing contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness, or a burning sensation develops and persists, obtain medical advice.
Eye Contact:	Immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention.
Ingestion:	Do not attempt to give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. DO NOT induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. Obtain medical attention IMMEDIATELY.
Note to Physicians:	Treat symptomatically. Medical conditions that may be aggravated by exposure to this product include diseases of the skin, eyes or respiratory tract.

5. FIRE-FIGHTING MEASURES

<i>Flashpoint (°C)</i>	<i>Autolgnition Temperature (°C)</i>	Flammability Limits in Air (%):	
		<i>LEL</i>	<i>UEL</i>
Not available.	> 370. (3)	Not applicable.	Not applicable.
Flammability Class (WHMIS):	Not regulated.		
Hazardous Combustion Products:	Thermal decomposition products are toxic and may include oxides of carbon, sodium and irritating gases.		
Unusual Fire or Explosion Hazards:	This product may be capable of forming flammable dust clouds in air. Avoid accumulation and dispersion of dust to reduce explosion potential. Spilled material may cause floors and contact surfaces to become slippery. Product becomes slippery when mixed with water. Enforce NO SMOKING rules.		
Sensitivity to Mechanical Impact:	Not expected to be sensitive to mechanical impact.		
Rate of Burning:	Not available.		
Explosive Power:	Not available.		
Sensitivity to Static Discharge:	High voltage static electricity build-up is possible when significant quantities of dust are present.		

EXTINGUISHING MEDIA

Fire Extinguishing Media: Use media appropriate for surrounding fire and/or materials. Do not use carbon dioxide or dry chemical.

FIRE FIGHTING INSTRUCTIONS

Instructions to the Fire Fighters: Isolate materials that are not involved in the fire and protect personnel. Product becomes slippery when mixed with water. Do not flush with water as aqueous solutions or powders that become wet render surfaces extremely slippery.

Fire Fighting Protective Equipment: Use self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Information in this section is for responding to spills, leaks or releases in order to prevent or minimize the adverse effects on persons, property and the environment. There may be specific reporting requirements associated with spills, leaks or releases, which change from region to region.

Containment and Clean-Up Procedures: In all cases of leak or spill contact vendor at Emergency Number shown on the front page of this MSDS. Eliminate all sources of ignition. Do not flush with water as aqueous solutions or powders that become wet render surfaces extremely slippery. Wear respirator, protective clothing and gloves. Avoid dry sweeping. Do not use compressed air to clean surfaces. Vacuuming is preferred. Return all material possible to container for proper disposal. Minimize air borne spreading of dust. Avoid accumulation and dispersion of dust to reduce explosion potential. Collect product for recovery or disposal. Ventilate enclosed spaces. Notify applicable government authority if release is reportable or could adversely affect the environment.

Where a package (drum or bag) is damaged and / or leaking, repair it, or place it into an over-pack drum immediately so as to avoid or minimize material loss and contamination of surrounding environment. Any recovered product can be used for the usual purpose, depending on the extent and kind of contamination. Notify applicable government authority if release is reportable or could adversely affect the environment.

7. HANDLING AND STORAGE

HANDLING

Handling Practices: Use normal "good" industrial hygiene and housekeeping practices. Ground and bond equipment and containers to prevent a static charge buildup. Use spark-resistant tools. This product may be capable of forming flammable dust clouds in air. Avoid accumulation and dispersion of dust to reduce explosion potential. Spilled material may cause floors and contact surfaces to become slippery. Use spark-resistant tools. Product becomes slippery when mixed with water.

Ventilation Requirements: See Section 8, "Engineering Controls".

Other Precautions: Use only with adequate ventilation and avoid breathing dusts. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use.

STORAGE

Storage Temperature (°C): See below.

Ventilation Requirements: General exhaust is acceptable.

Storage Requirements: Store in a cool, dry and well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Avoid moisture contamination. Prolonged storage may result in lumping or caking. Protect from direct sunlight. Protect against physical damage.

Special Materials to be Used for Packaging or Containers: Materials of construction for storing the product include: Multi-layer bags or sacks. Confirm suitability of any material before using.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommendations listed in this section indicate the type of equipment, which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

ENGINEERING CONTROLS

Engineering Controls: Local exhaust ventilation required. Ventilation should be explosion proof. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Avoid accumulation and dispersion of dust to reduce explosion potential. Ventilate low lying areas such as sumps or pits where dense dust may collect.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection:	Safety glasses with side shields are recommended to prevent eye contact. Use dust-tight chemical safety goggles when there is potential for eye contact. Contact lenses should not be worn when working with this material.
Skin Protection:	Gloves and protective clothing made from cotton, canvas, rubber or plastic should be impervious under conditions of use. Prior to use, user should confirm impermeability. Discard contaminated gloves.
Respiratory Protection:	No specific guidelines available. A NIOSH/MSHA approved dust mask for concentrations of nuisance dust up to 100 mg/m ³ particulate. An air-supplied respirator if concentrations are higher or unknown.
Other Personal Protective Equipment:	Wear regular work clothing. The use of coveralls is recommended. Locate safety shower and eyewash station close to chemical handling area. Take all precautions to avoid personal contact.

EXPOSURE GUIDELINES

Particulate Not Otherwise Classified:

ACGIH	OSHA
10 mg/m ³ - Inhalable particulate	50 mppcf* or 15 mg/m ³ - Total Dust
3 mg/m ³ - Respirable particulate	15 mppcf* or 5 mg/m ³ - Respirable Fraction

* mppcf = million particles per cubic foot

9. PHYSICAL AND CHEMICAL PROPERTIES (Not intended as Specifications)

Physical State:	Solid.
Appearance:	White to off-white powder or crystals.
Odour:	Odourless.
Odour Threshold (ppm):	Not applicable.
Boiling Range (°C):	Not applicable.
Melting/Freezing Point (°C):	Not applicable.
Vapour Pressure (mm Hg at 20° C):	Not applicable.
Vapour Density (Air = 1.0):	Not applicable.
Relative Density (g/cc):	1.5 - 1.6.
Bulk Density:	0.75 g / ml. (3)
Viscosity:	Not applicable.
Evaporation Rate (Butyl Acetate = 1.0):	Not applicable.
Solubility:	Soluble in water.
% Volatile by Volume:	8. (3)
pH:	Not available.
Coefficient of Water/Oil Distribution:	Not available.
Volatile Organic Compounds (VOC):	Not applicable.
Flashpoint (°C):	Not available.

10. STABILITY AND REACTIVITY**CHEMICAL STABILITY**

Under Normal Conditions:	Stable.
Under Fire Conditions:	Not readily flammable, but will support combustion. Avoid accumulation and dispersion of dust to reduce explosion potential.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	High temperatures, sparks, open flames and all other sources of ignition. Minimize air borne spreading of dust. Clean up immediately to eliminate slipping hazard. Keep tightly closed to protect quality. Avoid moisture contamination.
Materials to Avoid:	Strong oxidizers. Strong acids. Strong bases. Reducing agents. Avoid moisture contamination.
Decomposition or Combustion Products:	Thermal decomposition products are toxic and may include oxides of carbon, sodium and irritating gases.

11. TOXICOLOGICAL INFORMATION**TOXICOLOGICAL DATA:**

SUBSTANCE	LD50 (Oral, Rat)	LD50 (Dermal, Rabbit)	LC50 (Inhalation, Rat, 4h)
Sodium Carboxymethyl Cellulose	27 000 mg/kg (1)	> 2 000 mg/kg (1)	---
Carcinogenicity Data:	The ingredient(s) of this product is (are) not classed as carcinogenic by ACGIH, IARC, OSHA or NTP.		
Reproductive Data:	No adverse reproductive effects are anticipated.		
Mutagenicity Data:	No adverse mutagenic effects are anticipated.		
Teratogenicity Data:	No adverse teratogenic effects are anticipated.		
Respiratory / Skin Sensitization Data:	May cause skin sensitization or other allergic responses. Repeated ingestion may cause an allergic reaction in susceptible individuals. (3) Sensitization is the process whereby a biological change occurs in the individual because of previous exposure to a substance and, as a result, the individual reacts more strongly when subsequently exposed to the substance. In an industrial setting, the common routes of sensitization, inhalation and skin contact, are addressed by WHMIS. However, sensitization by ingestion is not specifically considered by WHMIS.		
Synergistic Materials:	None known.		
Other Studies Relevant to Material:	Sodium Carboxymethyl Cellulose produced a laxative effect after repeated oral ingestion of large amounts (10 grams). (3) A single case of allergic contact dermatitis has been reported after repeated long-term (8 years) skin contact. (3)		

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Low acute toxicity to aquatic organisms.
Environmental Fate:	Not available. This product is biodegradable. (3) Product has an unaesthetic appearance and can be a nuisance. May be harmful if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

13. DISPOSAL CONSIDERATIONS

Deactivating Chemicals:	None required.
Waste Disposal Methods:	This information applies to the material as manufactured. Processing, use or contamination may make the information inappropriate, inaccurate or incomplete. The responsibility for proper waste disposal lies with the owner of the waste. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems. Reevaluation of the product may be required by the user at the time of disposal since the product uses, transformations, mixtures and processes may influence waste classification.
Safe Handling of Residues:	See "Waste Disposal Methods".
Disposal of Packaging:	Empty containers retain product residue. No special treatment required. Recycling is encouraged. Treat package in the same manner as the product. Empty package may be disposed of with normal garbage.

14. TRANSPORTATION INFORMATION

CANADIAN TDG ACT SHIPPING DESCRIPTION:

This product is not regulated by TDG.

Label(s): Not applicable. Placard: Not applicable.

ERAP Index: ----- Exemptions: None known.

US DOT CLASSIFICATION (49CFR 172.101, 172.102):

This product is not regulated by DOT.

Label(s): Not applicable. Placard: Not applicable.

CERCLA-RQ: Not available. Exemptions: None known.

15. REGULATORY INFORMATION

CANADA

CEPA - NSNR: This material is included on the DSL under the CEPA.

CEPA - NPRI: Not included.

Controlled Products Regulations Classification (WHMIS):

Not regulated.

USA

Environmental Protection Act: This material is included on the TSCA Inventory.

OSHA HCS (29CFR 1910.1200): Not regulated.

NFPA: 1 Health, 1 Fire, 0 Reactivity (6)

HMIS: 1 Health, 1 Fire, 0 Reactivity (3)

INTERNATIONAL

Not available.

16. OTHER INFORMATION

REFERENCES

1. RTECS-Registry of Toxic Effects of Chemical Substances, Canadian Centre for Occupational Health and Safety RTECS database.
2. Clayton, G.D. and Clayton, F.E., Eds., Patty's Industrial Hygiene and Toxicology, 3rd ed., Vol. IIA,B,C, John Wiley and Sons, New York, 1981.
3. Supplier's Material Safety Data Sheet(s).
4. CHEMINFO, through "CCINFOdisc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada.
5. Guide to Occupational Exposure Values, 2008, American Conference of Governmental Industrial Hygienists, Cincinnati, 2008.
6. Regulatory Affairs Group, Brenntag Canada Inc.
7. The British Columbia Drug and Poison Information Centre, Poison Managements Manual, Canadian Pharmaceutical Association, Ottawa, 1981.
8. Lewis, Sr., Richard J., Carcinogenically Active Chemicals, Van Nostrand Reinhold, 1991, ISBN 0-442-31875-8.

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Brenntag Canada Inc. will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years.

To obtain revised copies of this or other Material Safety Data Sheets, contact your nearest Brenntag Canada Regional office.

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