

Quality System Certified to ISO 9001:2008 SAI Global File #004008 Burlington, Ontario, Canada

407C-LIQUID

Audio Video Head Cleaner

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: Audio Video Head Cleaner
SDS Code: 407C-Liquid
Related Part # 407C-250ML, 407C-1L

Recommended Use and Restriction on Use

Use: Magnetic tape head cleaner Uses Advised Against: Not applicable

Details of Manufacturer or Importer

Manufacturer MG Chemicals 1210 Corporate Drive Burlington, Ontario L7L 5R6 CANADA

MG Chemicals (Head Office) 9347-193 Street Surrey, British Columbia V4N 4E7 CANADA

A	+1-800-340-0772	a	+1-905-331-1396
Fax	+1-800-340-0773	Fax	+1-905-331-2682
E-mail	support@mgchemicals.com	E-mail	info@mgchemicals.com
Web	www.mgchemicals.com		

E-маіс (Competent Person): <u>sds@mqchemicals.com</u>

Emergency Phone Number

For hazardous material incidents ONLY (leaks, spills, fires, exposures or accidents) USA or CANADA—Call CHEMTREC at +1-800-424-9300

For emergencies involving the transport of dangerous goods; 24/7 service CANADA—Call CANUTEC collect at *+1-613-996-6666* or **666* on cellular phones

Page 1 of 17



407C-LIQUID

Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Flammable Liquid		2	Danger	Flame
Aspiration Hazard		1	Danger	Health
Reproductive Toxicity		2	Warning	Health
Skin Irritation		2	Warning	Exclamation
Eye Irritation		2	Warning	Exclamation
Specific Target Organ Toxicity	Single Exposure	3	Warning	Exclamation
Hazardous to the aquatic environment	Chronic	2	None	Environment

Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Label Elements

Signal Word	DANGER
Pictograms	Hazard Statements
	H225: Highly flammable liquid and vapour
	H304: May be fatal if swallowed and enters airways H361: Suspected of damaging fertility or the unborn child
	H319: Causes serious eye irritation H315: Cause skin irritation H336: May cause dizziness or drowsiness

Section continued on the next page

Page 2 of 17



407C-LIQUID

Continued...

Pictograms	Hazard Statements	
No Symbol Mandated	H411: Toxic to aquatic life with long lasting effects	
Prevention	Precautionary Statements	
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.	
P201 + P202	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.	
P233	Keep container tightly closed.	
P240	Ground and bond container and receiving equipment.	
P241	Use explosion-proof equipment.	
P261 + P271	Avoid breathing vapors/fumes. Use only outdoors or in well-ventilated area.	
243	Take action to prevent static discharges.	
P264	Wash hands thoroughly after handling.	
P280	Wear protective gloves/eye protection/face protection.	
P273	Avoid release to the environment.	
Response	Precautionary Statements	
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.	
P301 + P310, P331	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.	
P303 + P361 + P364 + P352	IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of water/shower.	
P332 + P313	If skin irritation occurs: Get medical advice/attention.	
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell.	
P308 + P313	IF exposed or concerned: Get medical advice/attention.	
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 + P313	If eye irritation persists: Get medical attention.	

Section continued on the next page

Page **3** of **17**



407C-LIQUID

Continued...

Storage	Precautionary Statements
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
Disposal	Precautionary Statements

Other Hazards

Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
Defats skin	Repeated exposure may cause skin dryness or cracking.	None	None

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	% (weight)
67-63-0	propan-2-ol ^{a)}	50%
107-83-5	methyl-2-pentane	15-25%
96-14-0	methyl-3-pentane	5-10%
79-29-8	dimethyl-2,3-butane	5-10%
75-83-2	dimethyl-2,2-butane	3-7%
110-54-3	n-hexane	1-2%

a) Commonly known as isopropyl alcohol (IPA)



407C-LIQUID

Section 4: First-Aid Measures		
Exposure Condition	GHS Code/Symptoms/Precautionary Statements	
IF SWALLOWED	P301 + P330 + P331, P312, 308 +P313	
Immediate Symptoms	abdominal pain, nausea, headaches, dizziness, drowsiness, vomiting	
Response Immediately call a POISON CENTRE/doctor. Rinse		
	Do NOT induce vomiting.	
	If exposed or concerned: Get medical advice.	
IF ON SKIN (or hair)	P303 + P361 + P364 + P352, P332 + P313	
Immediate Symptoms	irritation, dry skin, redness	
Response	IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of water/shower.	
	If skin irritation occurs: Get medical advice/attention.	
IF INHALED	P304 + P340, P312, P308 + P313	
Immediate Symptoms	cough, shortness of breath, dizziness, drowsiness, headaches	
Response Remove person to fresh air (out of the contaminated zor and keep comfortable for breathing.		
Response		
кезропзе		
кезропзе	and keep comfortable for breathing.	
IF IN EYES	and keep comfortable for breathing. If feeling unwell: Call a POISON CENTRE/doctor.	
	and keep comfortable for breathing. If feeling unwell: Call a POISON CENTRE/doctor. If exposed or concerned: Get medical advice.	
IF IN EYES	and keep comfortable for breathing. If feeling unwell: Call a POISON CENTRE/doctor. If exposed or concerned: Get medical advice. P305 + P351 + P338, P336 + P313	

Page **5** of **17**



407C-LIQUID

Section 5: Fire-Fighting Measures Extinguishing Media In case of fire: Use dry chemical, carbon dioxide, chemical

	foam, or water spray to extinguish.
	Use water spray to cool containers.
Specific Hazards	The vapors are heavier than air and may accumulate in low- lying areas. Vapors may travel long distances and ignite at an ignition source, which can cause a flashback or an explosion.
	Prevent fire-fighting wash from entering waterway or sewer system.
Combustion Products	Produces carbon oxides (CO, CO ₂).
Fire-Fighter	Wear self-contained breathing apparatus and full firefighting turn-out gear.

Section 6: Accidental Release Measures

Personal Protection	See personal protection recommendations in Section 8.
Precautions for Response	Avoid breathing vapors/fumes. Remove or keep away all sources of ignition or extreme heat.
Environmental Precautions	Avoid releasing to the environment. Prevent spill from entering drains and waterways.
Containment Methods	Contain with inert and nonflammable absorbent (such as soil, sand, vermiculite).
Cleaning Methods	Collect liquid in a sealable, solvent-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wash spill area with soap and water to remove the last traces of residue.
	Recommendation: Use a grounded stainless steel or carbon steel container or a solvent resistant plastic container.
Disposal Methods	Dispose of spill waste according to Section 13.

Page **6** of **17**



407C-LIQUID

Section 7: Handling and Storage

Prevention	Keep out of reach of children.
	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
	Take precautionary measures against static discharge.
	Ground and bond container and receiving equipment. Use explosion- proof equipment.
	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Do not spray on an open flame or other ignition source.
	Do not breathe vapors/fumes. Use only outdoors or in a well-ventilated area.
Handling	Wear protective gloves/clothing/eye protection.
	Wash hands thoroughly after handling.
Storage	Keep container tightly closed. Store in a well-ventilated area. Keep cool.
	Store locked up.

Section 8: Exposure Controls/Personal Protection

Substances with Occupational Exposure Limit Values

Chemical Name	Country/Province	Long Term Exposure Limits	Short Term Exposure Limits
		(PEL)	(STEL)
propan-2-ol	ACGIH	200 ppm (TWA)	400 ppm
	U.S.A. OSHA PEL	400 ppm	—
	Canada AB	200 ppm	400 ppm
	Canada BC	200 ppm	400 ppm
	Canada ON	200 ppm	400 ppm
	Canada QC	400 ppm	500 ppm
methyl-2-pentane	ACGIH	500	Not established
	U.S.A. OSHA PEL	500 ppm	Not established
	Canada AB	500 ppm	1 000
	Canada BC	200 ppm	Not established
	Canada ON	500 ppm	1 000
	Canada QC	500 ppm	1 000

Section continued on the next page

Page **7** of **17**



Continued

AUDIO VIDEO HEAD CLEANER

407C-LIQUID

Chemical Name	Country/Province	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
propan-2-ol	ACGIH	200 ppm (TWA)	400 ppm
	U.S.A. OSHA PEL	400 ppm	_
	Canada AB	200 ppm	400 ppm
	Canada BC	200 ppm	400 ppm
	Canada ON	200 ppm	400 ppm
	Canada QC	400 ppm	500 ppm
methyl-3-pentane	ACGIH	500 ppm	Not established
, .	U.S.A. OSHA PEL	500 ppm	Not established
	Canada AB	500 ppm	1 000 ppm
	Canada BC	200 ppm	Not established
	Canada ON	500 ppm	1 000 ppm
	Canada QC	500 ppm	1 000 ppm
dimethyl-2,3-	ACGIH	500 ppm	Not established
pentane	U.S.A. OSHA PEL	500 ppm	Not established
	Canada AB	500 ppm	1 000 ppm
	Canada BC	200 ppm	Not established
	Canada ON	500 ppm	1 000 ppm
	Canada QC	500 ppm	1 000 ppm
dimethyl-2,2-	ACGIH	500 ppm	Not established
pentane	U.S.A. OSHA PEL	500 ppm	Not established
	Canada AB	500 ppm	1 000 ppm
	Canada BC	200 ppm	Not established
	Canada ON	500 ppm	1 000 ppm
	Canada QC	500 ppm	1 000 ppm
n-hexane	ACGIH	50 ppm	Not established
	U.S.A. OSHA PEL	50 ppm	Not established
	Canada AB	50 ppm	Not established
	Canada BC	20 ppm	Not established
	Canada ON	50 ppm	Not established
	Canada QC	50 ppm	Not established

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database² and from suppliers' SDSs were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

Section continued on the next page

Page 8 of 17



407C-LIQUID

Engineering Controls		
Ventilation	Keep airborne concentrations below the occupational exposure limits (OEL).	
Personal Protective Equipment		
Eye protection	Wear appropriate protective eyeglasses or chemical safety goggles.	
	Recommendation: Ensure that glasses have side shields for lateral protection.	
Skin Protection	For likely contacts, use of protective butyl rubber or other chemically resistant gloves.	
	For incidental contacts, use nitrile or other chemically resistant gloves.	
Respiratory Protection	For over-exposures up to 10 x OEL of mist/vapors/spray, wear respirator such as a half-mask respirator with organic vapor cartridges.	
	Above 10 x OEL, use a positive-pressure, air-supplied respirator or a self-contained breathing apparatus.	
	RECOMMENDATION: Consult your local safety supply store to ensure that your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in Section 3. The respirator should be fitted to the employee by a professional. Ensure vapor cartridges are stored in sealed plastic bags when not being used.	

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

Page **9** of **17**



407C-LIQUID

Physical State	Liquid	Lower Flammability Limit ^{a)}	1%
Appearance	Colorless	Upper Flammability Limit ^{a)}	8%
Odor	Alcohol, mild	Vapor Pressure	13.6 kPa
	hydrocarbon	@20 °C ^{a)}	[102 mmHg]
Odor Threshold	Not available	Vapor Density	>2.1 (Air = 1)
рН	Not available	Specific Gravity @25 °C	1.97
Freezing/Melting	-90 °C	Solubility in	Partially soluble
Point	[-130 °F]	Water	
Boiling Point ^{b)}	≥49 °C	Partition	Not
	[≥121 °F]	Coefficient	available
Flash Point ^{b)}	-29 °C	Auto-ignition	≥234 °C
	[-20 °F]	Temperature ^{c)}	[≥453 °F]
Evaporation	>0.8	Decomposition	Not
Rate	(ButAc = 1)	Temperature	available
Flammability	Not	Viscosity	<1 mm²/s
(solid, gas)	applicable	@25 °C	

a) Values calculated using Raoult's Law and Le Chatelier principle for solvent components.

b) The values for the boiling point and closed cup flash point are based on the isohexane mixture components.

c) The auto-ignition value is based on n-hexane.

Section 10: Stability and Reactivity

Reactivity	Reacts exothermically with amines.
Chemical Stability	Chemically stable at normal temperatures and pressures.
Conditions to Avoid	Direct sunlight, high temperatures, open flames, sparks and incompatible substances.
Incompatibilities	Strong oxidizing agents, strong acids, strong bases, powdered aluminum at \ge 49 °C [\ge 120 °F]
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

Page 10 of 17



407C-LIQUID

Section 11: Toxicological Information

Summary of Effects and Symptoms by Routes of Exposure

Eyes Causes serious eye irritation, tearing, redness or pain.

- Skin Causes skin irritation.
- Inhalation May cause nose, throat and lung irritation. Overexposure may lead to visual impairment and central nervous system effects such as dizziness, drowsiness, or weakness.
- **Ingestion** Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis. See inhalation symptoms.
- **Chronic** Prolonged or repeated exposure may defat skin and cause skin dryness and cracking, and local redness and discomfort.

Ingestion or inhalation of material, mist, or vapor during pregnancy increases the chances fetal death and developmental defects.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50	LD50	LC50
	oral	dermal	inhalation
isopropyl alcohol	3 600 mg/kg	12 800 mg/kg	16 000 ppm
	Rat	Rabbit	8 h Rat
methyl-2-pentane	Not	Not	3 125 ppm
	available	available	4 h Rat ^{a)}
methyl-3-pentane	Not	Not	Not
	available	available	available
dimethyl-2,3-butane	Not	Not	Not
	available	available	available
dimethyl-2,2-butane	Not	Not	Not
	available	available	available
n-hexane	15 480 mg/kg	>1.3 g/kg	627 000 ppm
	Rat	Rabbit ^{a)}	3 min Rat

Note: Toxicity data from the RTECS² and ECHA databases were consulted. The data from supplier (M)SDSs were also consulted.

a) Supplier MSDS

Section continued on the next page

Page 11 of 17



407C-LIQUID

Other Toxicological Effects		
Skin Corrosion/Irritation	Causes skin irritation	
Serious Eye Damage/Irritation	Causes serious eye irritation.	
Sensitization (allergic reactions)	Based on available data, the classification criteria are not met.	
Carcinogenicity (risk of cancer)	Not classified or listed as a carcinogen by IARC, NTP, ACGIH, or CA Prop 65.	
Mutagenicity (risk of heritable genetic effects)	Based on available data, the classification criteria are not met.	
Reproductive Toxicity (risk to sex functions)	Based on available data, the classification criteria are not met.	
Teratogenicity (risk of fetus malformation)	Based on available data, the classification criteria are not met.	
STOT-Single Exposure	Inhalation of hexane isomers and propan-2-ol may affect the central nervous system causing drowsiness or dizziness	
STOT-Repeated Exposure	Based on available data, the classification criteria are not met.	
Aspiration Hazard	Mixture is a class 1 aspiration hazard. It contains over 50% class 1 aspiration hazard components and has a mixture viscosity of <20.5 mm ² /s at 40 °C.	

Section 12: Ecological Information

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (<u>http://echa.europa.eu</u>), and other reliable sources.

Isoalkanes are chronic category 2 aquatic toxicant based on similar mixtures of isoalkanes C6-C7 with <5% n-hexane that have a LC50 96 h of 11.4 mg/L for rainbow trout (Oncorhynchus mykiss), and an EL50 48 h of 3.0 mg/L water flea (Daphnia magna).

Mixtures of isoalkanes C6-C7 with <5% n-hexane suggest an EC50 >2 mg/L for fish using a QSAR model. For water flea (Daphnia magna) a NOELR 21 days of 1 mg/L and an EL50 of 1.6 mg/L.

Section continued on the next page

Page 12 of 17



407C-LIQUID

Based on available data, propan-2-ol does not meet the environmental toxicant classification with LC50 and EC50 >100 mg/L.

• Propan-2-ol has a minimal LC50 96 h of 9 640 mg/L for Pimephales promelas (fathead minnow); an EC50 24 h of 5 102 mg/L Daphnia magna (water flea); and an EC50 72 h of 2 000 mg/L Desmodesmus subspicatus (green algae).

Acute Ecotoxicity

Category 3 Harmful to aquatic life Avoid release to the environment. Collect Spillage.

Chronic Ecotoxicity

Category 2 Toxic to aquatic life with long lasting effects Avoid release to the environment. Collect Spillage. **Biodegradability**

Not available

Other Effects

Volatile Organic Content (VOC) = 100% [720 g/L]

Section 13: Disposal Information

Dispose of contents in accordance with all local, regional, national, and international regulations.

Page **13** of **17**



407C-LIQUID

Section 14: Transport Information

Ground

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations); **USA DOT 49 CFR** (Parts 100 to 185) **Regulations**.

Sizes 1 L and under

Limited Quantity



Air

Refer to ICAO-IATA Dangerous Goods Regulations.	
Sizes 0.5 L and under	Sizes greater than 0.5 L up to 5 L (passenger), 60 L (cargo)
Limited Quantity Max Net Qty/Pkg = 1 L	UN number: UN1993 Shipping Name: Flammable Liquid, N.O.S (isopropyl alcohol, hexanes) Class: 3 Packing Group: II Marine Pollutant: Yes

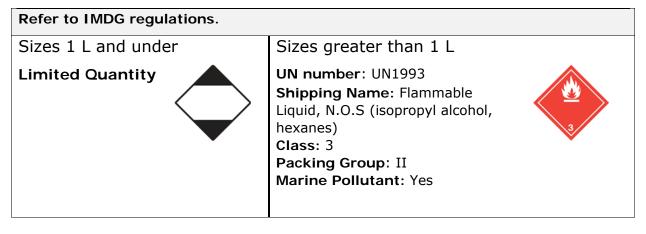
Section continued on the next page

Page 14 of 17



407C-LIQUID

Sea



Note: Shipper must be appropriately trained and certified before involvement with the transport of dangerous goods.

Section 15: Regulatory Information

Canada

Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL.

Hazardous Products Act (R.S.C., 1985, c. H-3)

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

USA

Other Classifications

HMIS® RATING



NFPA® 704 CODES



Approximate HMIS and NFPA Risk Ratings Legend: 0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

Page 15 of 17



407C-LIQUID

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product contains acetone (CAS# 67-64-1), which is subject to the CERCLA reporting requirements at the 5 000 lb (2 268 kg) threshold.

This product contains n-butyl acetate (CAS# 123-86-4), which is subject to the CERCLA reporting requirements at the 5 000 lb (2 268 kg) threshold.

This product contains propan-2-ol (CAS# 67-63-0) which is subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, USA).

This product contains n-hexane, which is listed as reproductively toxic.

Europe

RoHS (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP and complies with European RoHS regulations.

WEEE (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment and is therefore not governed by this regulation.

Section 16: Other Information

SDS Prepared by	Michel Hachey
Date of Creation	22 February 2018
Supersedes	05 June 2015
Reason for Changes:	Added California proposition 65 hazard statement for n-hexane (reproductive hazard) in section 15.

Section continued on the next page

Page 16 of 17



407C-LIQUID

Reference

1) ACGIH 2017 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2017).

2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

Abbreviations

- ACGIH American Conference of Governmental Industrial Hygienists (USA)
- EC50 Half maximal effective concentration
- EL50 Half maximal effective loading
- IARC International Agency for Research on Cancer
- NOELR No observable effect loading ratio
- NTP National Toxicology Program
- GHS Globally Harmonized System of Classification of Labeling of Chemicals
- LC50 Lethal Concentration 50%
- LCLo Lowest published lethal concentration
- LD50 Lethal Dose 50%
- OEL Occupational Exposure Limit
- PEL Permissible Exposure Limit
- SDS Safety Data Sheet
- STEL Short-Term Exposure Limit
- TCLo Lowest published toxic concentration
- TWA Time Weighted Average
- VOC Volatile Organic Content
- Wt Weight
- **Technical Queries**

Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at <u>www.mgchemicals.com</u>.

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Page 17 of 17