



Cleaner Formula APC

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

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Version: 5.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Cleaner Formula APC

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Cleaning solutions

1.3. Details of the supplier of the safety data sheet

Manufacturer

Marking Methods
301 S Raymond Avenue
Alhambra, CA 91803-1531
USA
T (626) 282 8823

1.4. Emergency telephone number

Emergency number : CHEMTREC 1 (800) 424-9300
CHEMTREC International +1 (703) 527-3887 24 hr

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS classification

Skin Irrit. 2
Eye Irrit. 2A
STOT RE 1

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :



GHS07

GHS08

Signal word (GHS) : Danger

Hazard statements (GHS) : Causes skin irritation. Causes serious eye irritation. Causes damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS) : Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. 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 advice/attention. Get medical advice/attention if you feel unwell. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%
2,4-Pentanediol, 2-methyl-	(CAS-No.) 107-41-5	0.1 – 1
Ethanol,2-amino-	(CAS-No.) 141-43-5	0.1 – 1

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
- First-aid measures after skin contact : IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : 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 advice/attention.
- First-aid measures after ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/effects after inhalation : May cause irritation to the respiratory tract.
- Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
- Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
- Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Chronic symptoms : Causes damage to organs through prolonged or repeated exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use water jet.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon.

5.3. Advice for firefighters

- Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.
- Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Provide ventilation.

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6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Avoid contact with skin and eyes. Do not breathe dust, fume, gas, mist, spray, vapours. Do not swallow. When using do not eat, drink or smoke. Handle and open container with care.
- Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep out of the reach of children. Keep only in the original container. Do not store in unlabelled containers. Containers which are opened should be properly resealed and kept upright to prevent leakage. Store tightly closed in a dry, cool and well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Cleaner Formula APC	
No additional information available	
2,4-Pentanediol, 2-methyl- (107-41-5)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	25 ppm (vapor fraction)
ACGIH OEL STEL	10 mg/m ³ (inhalable particulate matter, aerosol only)
ACGIH OEL STEL [ppm]	50 ppm (vapor fraction)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL C	125 mg/m ³
NIOSH REL C [ppm]	25 ppm
Ethanol,2-amino- (141-43-5)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	3 ppm
ACGIH OEL STEL [ppm]	6 ppm
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA [1]	6 mg/m ³
OSHA PEL TWA [2]	3 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	30 ppm
IDLH [ppm]	30 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	8 mg/m ³
NIOSH REL TWA [ppm]	3 ppm
NIOSH REL STEL	15 mg/m ³
NIOSH REL STEL [ppm]	6 ppm

8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station. Provide readily accessible eye wash stations and safety showers.
- Hand protection : Wear suitable gloves resistant to chemical penetration.
- Eye protection : Wear eye/face protection.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Environmental exposure controls : Avoid release to the environment.
- Other information : Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Light amber liquid.
Colour	: Light amber
Odour	: Amine
Odour threshold	: No data available
pH	: 8 – 10
Melting point	: 0 °C (32 °F)
Freezing point	: No data available
Boiling point	: 100 °C (212 °F)
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: > 1 [Air = 1]
Relative density	: 1
Solubility	: Miscible with water.
Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

VOC content	: 0.63 % (w/w)
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SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.

2,4-Pentanediol, 2-methyl- (107-41-5)	
LD50 oral rat	3700 mg/kg
LD50 dermal rabbit	12300 mg/kg
LC50 inhalation rat	Exposure time

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2,4-Pentanediol, 2-methyl- (107-41-5)	
ATE CA (oral)	3700 mg/kg bodyweight
ATE CA (Dermal)	12300 mg/kg bodyweight
Ethanol,2-amino- (141-43-5)	
LD50 oral rat	1720 mg/kg
LD50 dermal rabbit	1000 mg/kg
LD50 dermal	1018 mg/kg
ATE CA (oral)	1720 mg/kg bodyweight
ATE CA (Dermal)	1000 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	4500 ppmv/4h
ATE CA (vapours)	11 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation. pH: 8 – 10
Serious eye damage/irritation	: Causes serious eye irritation. pH: 8 – 10
Respiratory or skin sensitisation	: Not classified.
Germ cell mutagenicity	: Not classified.
Carcinogenicity	: Not classified.
Reproductive toxicity	: Not classified.

2,4-Pentanediol, 2-methyl- (107-41-5)	
LOAEL (animal/male, F0/P)	500 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test), Guideline: other:Commission Regulation (EC) No. 440/2008, Part B.3, 30 May 2008
NOAEL (animal/male, F0/P)	200 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test), Guideline: other:Commission Regulation (EC) No. 440/2008, Part B.3, 30 May 2008
NOAEL (animal/female, F0/P)	≥ 1000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test), Guideline: other:Commission Regulation (EC) No. 440/2008, Part B.3, 30 May 2008

STOT-single exposure	: Not classified.
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Ethanol,2-amino- (141-43-5)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure.
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2,4-Pentanediol, 2-methyl- (107-41-5)	
NOAEL (oral, rat, 90 days)	450 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Ethanol,2-amino- (141-43-5)	
NOAEL (oral, rat, 90 days)	300 mg/kg bodyweight Animal: rat, Guideline: other:OECD Guideline 416 (Two-generation reproduction toxicity study)
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard	: Not classified.
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Symptoms/effects after eye contact	: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion	: May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms	: Causes damage to organs through prolonged or repeated exposure.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

2,4-Pentanediol, 2-methyl- (107-41-5)	
LC50 - Fish [1]	10500 – 11000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	2700 – 3700 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
Ethanol,2-amino- (141-43-5)	
LC50 - Fish [1]	227 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	65 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	3684 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
ErC50 algae	2.5 mg/l
NOEC (chronic)	0.85 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	1.24 mg/l Test organisms (species): Oryzias latipes Duration: '41 d'

12.2. Persistence and degradability

Cleaner Formula APC	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Cleaner Formula APC	
Bioaccumulative potential	Not established.
2,4-Pentanediol, 2-methyl- (107-41-5)	
Partition coefficient n-octanol/water	< 0.14
Ethanol,2-amino- (141-43-5)	
Partition coefficient n-octanol/water	-1.91 (at 25 °C)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. The generation of waste should be avoided or minimized wherever possible.

Additional information : Empty containers may contain residues which are hazardous.

SECTION 14: Transport information

Department of Transportation (DOT) and Transportation of Dangerous Goods (TDG)

In accordance with DOT/TDG

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

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15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
2,4-Pentanediol, 2-methyl-(107-41-5)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List
Ethanol,2-amino-(141-43-5)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List
Ethanol, 2,2',2"-nitrilotris-(102-71-6)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List
Sodium sulfate(7757-82-6)	U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

SECTION 16: Other information

Revision date : 04/23/2021
Other information : None.

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