

Exolit AP 428

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**SECTION 1. IDENTIFICATION**

<b>Identification of the company:</b>	Clariant Plastics & Coating USA Inc. 4000 Monroe Road Charlotte, NC, 28205 Telephone No.: +1 704 331 7000
<b>Information of the substance/preparation:</b>	Product Stewardship, +1-704-331-7710
<b>Emergency tel. number:</b>	+1 800-424-9300 CHEMTREC

**Trade name:** Exolit AP 428  
**Material number:** 300053

**Primary product use:** Flame retardants  
**Chemical family:** ammonium polyphosphate

**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with 29 CFR 1910.1200**

Combustible dust

**GHS label elements**

Signal word : Warning

Hazard statements : May form combustible dust concentrations in air.

Precautionary statements : **Prevention:**  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P243 Take precautionary measures against static discharge.  
P233 Keep container tightly closed.

**Other hazards**

Dust can form an explosive mixture in air.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

Substance name : ammonium polyphosphate

**Hazardous components**

Chemical name	CAS-No.	Concentration (% w/w)
Melamine	108-78-1	1 - 5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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**SECTION 4. FIRST AID MEASURES**

- General advice : Get medical advice/ attention if you feel unwell.
- If inhaled : Move the victim to fresh air.  
Give oxygen or artificial respiration if needed.  
Get immediate medical advice/ attention.  
Never give anything by mouth to an unconscious person.
- In case of skin contact : Wash with soap and water. Contact physician if irritation or other symptoms occur. If hot wax strikes skin, drench or immerse the area in water to assist cooling. Do not remove wax from a burn after it cools. Consult a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Get medical attention immediately if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.  
Do not give anything to drink.  
Call a physician immediately.
- Most important symptoms and effects, both acute and delayed : No symptoms known currently.  
No hazards known at this time.
- Notes to physician : Treat symptomatically.

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**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Foam  
Water spray jet  
Dry powder
- Unsuitable extinguishing media : High volume water jet  
Carbon dioxide (CO2)
- Specific hazards during firefighting : Ammonia
- Further information : Wear suitable protective equipment.
- Special protective equipment for firefighters : Wear personal protective equipment.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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- Personal precautions, protective equipment and emergency procedures : Wear suitable protective equipment.
- Environmental precautions : The product should not be allowed to enter drains, water courses or the soil.
- Methods and materials for containment and cleaning up : Take up mechanically  
Dispose of in accordance with local regulations.

**SECTION 7. HANDLING AND STORAGE**

- Advice on safe handling : Avoid dust formation. Keep away from sources of ignition.  
Lead off electrostatic charges.  
Avoid inhalation, ingestion and contact with skin and eyes.  
Wash thoroughly after handling.
- Technical measures/Precautions : Store in original container.  
Keep container tightly closed.  
Store in a cool, dry, well-ventilated area.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Melamine	108-78-1	TWA	3 mg/m3	US WEEL

- Engineering measures** : Use adequate exhaust ventilation and/or dust collection to keep dust levels below exposure limits.

**Personal protective equipment**

- Respiratory protection : Use NIOSH/MSHA approved respirators following manufacturer's recommendations where dust or fume may be generated.
- Hand protection  
Remarks : Butyl Rubber, PVC Or Neoprene.
- Eye protection : Safety glasses or chemical splash goggles.
- Skin and body protection : Wear suitable protective equipment.
- Protective measures : Observe the usual precautions for handling chemicals.
- Hygiene measures : Wash hands before breaks and at the end of workday.  
When using do not eat, drink or smoke.  
Use protective skin cream before handling the product.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	:	powder
Colour	:	white
pH	:	5 - 8 Concentration: 10 %
Melting point	:	> 275 °C
Boiling point	:	no data available
Flash point	:	Not applicable
Evaporation rate	:	not determined
Flammability (solid, gas)	:	Not classified as a flammability hazard
Self-ignition	:	Method: Expert judgement The substance or mixture is not classified as pyrophoric.  >= 400 °C Method: VDI 2263 (Grewer)  >= 400 °C Method: VDI 2263 (Grewer) The sample was mixed 1:1 with diatomaceous earth.
Burning number	:	1 Does not catch fire
Upper explosion limit / upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Vapour pressure	:	Not applicable
Relative vapour density	:	not determined
Density	:	1.90 g/cm <sup>3</sup> (25 °C)
Solubility(ies)	:	
Water solubility	:	approximately <= 5 g/l (25 °C)
Solubility in other solvents	:	not determined
Partition coefficient: n-octanol/water	:	not determined

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Decomposition temperature	:	The substance or mixture is not classified self-reactive.
Self-Accelerating decomposition temperature (SADT)	:	> 75 °C
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	no data available
Explosive properties	:	Not explosive Method: Expert judgement
Oxidizing properties	:	The substance or mixture is not classified as oxidizing. Method: Expert judgement The product does not contain organic peroxide-groups which result from either the manufacturing process or from added ingredients.
Self-heating substances	:	The substance or mixture is not classified as self heating.
Particle size	:	15 - 22 µm

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable
Possibility of hazardous reactions	:	The substance or mixture does not emit flammable gases in contact with water. Not corrosive to metals
Conditions to avoid	:	None
Incompatible materials	:	none
Hazardous decomposition products	:	When handled and stored appropriately, no dangerous decomposition products are known The product does not contain any chemical groups which suggest self-reactive properties, nor is the estimated SADT less than 75 °C, nor is the exothermic decomposition energy higher than 300 J/g.

**SECTION 11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Inhalation

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**Acute toxicity****Product:**

- Acute oral toxicity : LD50 (Rat, female): 4,740 mg/kg  
Method: internal test  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: By analogy with a product of similar composition
- Acute inhalation toxicity : Remarks: no data available
- Acute dermal toxicity : Remarks: no data available

**Components:****Melamine:**

- Acute oral toxicity : LD50 (Rat, male and female): 3,161 - 3,828 mg/kg  
Method: Other  
GLP: No information available.
- Acute inhalation toxicity : LC50 (Rat, male and female): > 5.19 mg/l  
Exposure time: 4 h  
Method: OECD Test Guideline 403  
GLP: yes
- Acute dermal toxicity : Remarks: Not applicable

**Skin corrosion/irritation****Product:**

- Species: Rabbit  
Exposure time: 24 h  
Assessment: No skin irritation  
Method: FDA guideline  
Result: slight irritant effect - does not require labelling  
Remarks: By analogy with a product of similar composition

**Components:****Melamine:**

- Species: Rabbit  
Exposure time: 4 h  
Method: OECD Test Guideline 404  
Result: No skin irritation  
GLP: yes

**Serious eye damage/eye irritation****Product:**

- Species: rabbit eye  
Result: No eye irritation  
Exposure time: 1 h

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Method: FDA guideline

Remarks: By analogy with a product of similar composition

**Components:****Melamine:**

Species: rabbit eye

Result: No eye irritation

Method: Other

GLP: no

**Respiratory or skin sensitisation****Product:**

Remarks: no data available

**Components:****Melamine:**

Test Type: Maximisation Test

Exposure routes: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Does not cause skin sensitisation.

GLP: yes

**Germ cell mutagenicity****Product:**

Germ cell mutagenicity - Assessment : No information available.

**Components:****Melamine:**

Genotoxicity in vitro

: Test Type: Ames test  
Test system: Salmonella typhimurium  
Concentration: 50 - 5000 µg/plate  
Metabolic activation: with and without metabolic activation  
Method: Ames test  
Result: negative  
GLP: yes

Test Type: In vitro gene mutation study in mammalian cells  
Test system: Chinese hamster ovary cells  
Concentration: 600 - 1000 µg/ml  
Metabolic activation: with and without metabolic activation  
Method: Other  
Result: negative  
GLP: yes

Test Type: Chromosome aberration test in vitro

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Test system: Chinese hamster ovary cells  
Concentration: 240 - 300 µg/ml  
Metabolic activation: with and without metabolic activation  
Method: Other  
Result: negative  
GLP: No information available.

Genotoxicity in vivo : Test Type: Chromosome Aberration Test  
Species: Mouse (male and female)  
Strain: CD1  
Cell type: Bone marrow  
Application Route: oral (gavage)  
Exposure time: 1 - 2 treatments, 24 h  
Dose: 1000 - 10000 - 20000 mg/kg  
Method: Other  
Result: negative  
GLP: yes

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

**Carcinogenicity****Product:**

Carcinogenicity - Assessment : No information available.

**Components:****Melamine:**

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

**IARC** Not listed

**OSHA** Not listed

**NTP** Not listed

**Reproductive toxicity****Product:**

Reproductive toxicity - Assessment : No information available.

**Components:****Melamine:**

Effects on fertility : Test Type: Fertility/early embryonic development  
Species: rodent  
Method: Other  
GLP: No information available.



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Remarks: Fertility and developmental toxicity tests did not reveal any effect on reproduction.

Effects on foetal development

: Species: Rat  
Strain: wistar  
Application Route: oral (feed)  
Dose: 136 - 400 - 1060 mg/kg  
General Toxicity Maternal: NOAEL: 400 mg/kg body weight  
Teratogenicity: NOAEL: 1,060 mg/kg body weight  
Method: OECD Test Guideline 414  
GLP: yes

Reproductive toxicity - Assessment

: Weight of evidence does not support classification for reproductive toxicity  
Embryotoxicity classification not possible from current data.

#### STOT - single exposure

##### Components:

##### **Melamine:**

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### STOT - repeated exposure

##### Components:

##### **Melamine:**

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### Repeated dose toxicity

##### Product:

Remarks: This information is not available.

##### Components:

##### **Melamine:**

Species: Rat, male and female  
NOAEL: 750  
Application Route: oral (feed)  
Exposure time: 13 w  
Number of exposures: daily  
Dose: 750 - 18000 ppm nominal in die  
Group: yes  
Method: Repeated Dose Toxicity (subchronic study)  
GLP: No information available.

Application Route: Inhalation

Remarks: This information is not available.

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Application Route: Skin contact  
Remarks: This information is not available.

**Aspiration toxicity****Components:****Melamine:**

No aspiration toxicity classification

**Experience with human exposure****Product:**

General Information : The possible symptoms known are those derived from the labelling (see section 2).

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 500 mg/l  
Exposure time: 96 h  
Method: OECD  
Remarks: By analogy with a product of similar composition

Toxicity to daphnia and other aquatic invertebrates : Remarks: no data available

Toxicity to algae : Remarks: no data available

Toxicity to microorganisms : Remarks: no data available

**Components:****Melamine:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 3,000 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Analytical monitoring: no  
Method: Other  
GLP: no  
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp. (water flea)): 200 mg/l  
Exposure time: 48 h  
Test Type: static test  
Analytical monitoring: no  
Method: US-EPA FIFRA 72-2  
GLP: yes

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- Remarks: The details of the toxic effect relate to the nominal concentration.
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 325 mg/l  
End point: Growth rate  
Exposure time: 96 h  
Test Type: static test  
Analytical monitoring: no data available  
Method: Other  
GLP: yes  
Remarks: The details of the toxic effect relate to the nominal concentration.
- Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)):  $\geq 5.1$  mg/l  
End point: length of young fish  
Exposure time: 36 d  
Test Type: flow-through test  
Analytical monitoring: yes  
Method: OECD Test Guideline 210  
GLP: yes
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia sp. (water flea)):  $\geq 11$  mg/l  
End point: Reproduction rate  
Exposure time: 21 d  
Test Type: semi-static test  
Analytical monitoring: yes  
Method: OECD Test Guideline 211  
GLP: yes
- Toxicity to microorganisms : EC0 (Nitrobacter sp.):  $> 100$  mg/l  
End point: Nitrate formation rate  
Exposure time: 2 h  
Test Type: static test  
Analytical monitoring: no data available  
Method: Other  
GLP: yes  
Remarks: The details of the toxic effect relate to the nominal concentration.
- Plant toxicity : Remarks: Not applicable
- Sediment toxicity : Remarks: Not applicable
- Toxicity to terrestrial organisms : Remarks: Not applicable

**Persistence and degradability****Product:**

- Biodegradability : Remarks: Inorganic substance. Causes no biological oxygen consumption.

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**Components:****Melamine:**

- Biodegradability : aerobic  
Inoculum: activated sludge  
Concentration: 100 mg DOC/l  
Dissolved organic carbon (DOC)  
Result: not rapidly degradable  
Biodegradation: < 10 %  
Exposure time: 28 d  
Method: OECD Test Guideline 302B  
GLP: No information available.
- aerobic  
Inoculum: activated sludge  
Method: Other  
GLP: No information available.  
Remarks: The product is biodegradable after lengthy adaptation.
- Physico-chemical removability : Remarks: Not readily eliminated from water.

**Bioaccumulative potential****Product:**

- Bioaccumulation : Remarks: no data available

**Components:****Melamine:**

- Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 0.38 - 3.8  
Exposure time: 42 d  
Concentration: < 0.2 - 2 mg/l  
Method: Other  
GLP: No information available.

**Mobility in soil****Components:****Melamine:**

- Distribution among environmental compartments : Adsorption/Soil  
Medium: water - soil  
log Koc: 1.13 - 1.51  
Method: estimated

**Other adverse effects****Product:**

- Environmental fate and pathways : Remarks: no data available

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Additional ecological information : The product should not be allowed to enter drains, water courses or the soil.  
Avoid release to the environment.

**Components:****Melamine:**

Environmental fate and pathways : no data available

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

RCRA - Resource Conservation and Recovery Act : This product, if discarded as sold, is not a Federal RCRA hazardous waste.

Waste Code : None

Waste from residues : Dispose of spilled or waste product, contaminated soil and other contaminated materials in licensed landfill or treatment facility in accordance with all local, state, and federal regulations.

Contaminated packaging : Packaging that cannot be cleaned should be disposed of as product waste

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**SECTION 14. TRANSPORT INFORMATION**

DOT not restricted

IATA not restricted

IMDG not restricted

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**SECTION 15. REGULATORY INFORMATION****EPCRA - Emergency Planning and Community Right-to-Know****Act****CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Combustible dust

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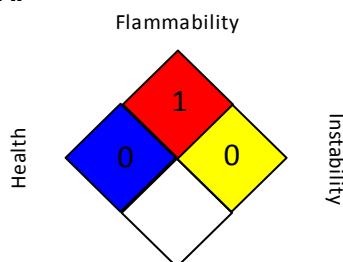
**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Water Act**

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**The components of this product are reported in the following inventories:**

TSCA : On TSCA Inventory

**SECTION 16. OTHER INFORMATION****Further information****NFPA:**

Special hazard.

**Full text of other abbreviations**

US WEEL : USA. Workplace Environmental Exposure Levels (WEEL)

US WEEL / TWA : 8-hr TWA

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test

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population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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