Substance key: 000000602732	Revision Date: 03/05/2024
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SECTION 1. IDENTIFICATION

Identification of the company:	Clariant Corporation 500 East Morehead Street Charlotte, NC, 28202 Telephone No.: +1 704 331 7000 **Information of the substance/preparation:** Product Stewardship, +1-704-331-7710 e-mail: SDS.NORAM@clariant.com **Emergency tel. number:** +1 800-424-9300 CHEMTREC

Trade name:	**Exolit AP 435 (TP)**
Material number:	289089
Primary product use:	Flame retardants
Chemical family:	Ammonium Polyphosphate

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Carcinogenicity	:	Category 2
Reproductive toxicity	:	Category 2

GHS label elements

Hazard pictograms :

Signal word	:	Warning
Hazard statements	:	H351 Suspected of causing cancer. H361f Suspected of damaging fertility.
Precautionary statements	:	**Prevention:** P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. **Response:** P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

No additional hazards are known except those derived from the labelling.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Melamine	108-78-1	>= 0.1 - < 1

Actual concentration is withheld as a trade secret

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 thoroughly with soap and water for 15 minutes. If skin irritation occurs, seek medical attention.

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 : The possible symptoms known are those derived from the labelling (see section 2).
The possible risks known are those derived from the labelling (see section 2).
Suspected of causing cancer.
Suspected of damaging fertility.

Notes to physician : Treat symptomatically.

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	:	Hazardous decomposition products: Nitrogen oxides (NOx)
Further information	:	Wear suitable protective equipment.
Special protective equipment for firefighters	:	Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Wear suitable protective equipment. Information regarding Safe handling, see chapter 7. For personal protection see section 8. For disposal considerations see section 13.
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 protection against fire and explosion	:	Observe the general rules of industrial fire protection Electrical equipment should be protected to the appropriate standard.
Advice on safe handling	:	Avoid inhalation, ingestion and contact with skin and eyes. Wash thoroughly after handling.
Conditions for safe storage	:	Store in a well-ventilated place. Keep away from direct sunlight.
Further information on storage conditions	:	Store in original container. Keep container tightly closed. Store in a cool, dry, well-ventilated area.
Materials to avoid	:	Do not store together with Strong oxidizing agents

Storage period : 360 d

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 : A system of local and/or general exhaust is recommended where employee exposures are at or above Occupational Exposure Limits (OEL).

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 protective clothing, including long sleeves and gloves, to prevent skin contact.

Protective measures : Avoid contact with the skin and the eyes.
Avoid contact with clothing.

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

Colour : white

Odour : none

Odour Threshold : not determined

pH : 4 - 7
Concentration: 10 %
(as aqueous solution)

Melting point	:	> 527 °F / > 275 °C
Boiling point	:	Not applicable
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Not classified as a flammability hazard Not expected to form explosive dust-air mixtures.
Self-ignition	:	338 °F / 170 °C Method: VDI 2263 (Grewer) No self-ignition below melting temperature.
Burning number	:	1 Does not catch fire
Upper explosion limit / upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	< 0.1 hPa
Relative vapour density	:	Not applicable
Density	:	2 g/cm3 (77 °F / 25 °C)
Solubility(ies)		
Water solubility	:	< 10 g/l
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	> 527 °F / > 275 °C Heating rate: 5 K/min Method: DTA start of decomposition
Viscosity		
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Explosive properties	:	Not explosive

Oxidizing properties	:	The substance or mixture is not classified as oxidizing. 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.
Dust explosion class	:	not capable of dust explosion
Metal corrosion rate	:	Not applicable
Particle size	:	15 - 20 µm

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable
Possibility of hazardous reactions	:	Stable The substance or mixture does not emit flammable gases in contact with water. Not corrosive to metals
Conditions to avoid	:	None
Incompatible materials	:	Alkalis
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

Skin contact
Eye contact

Acute toxicity

Not classified due to lack of data.

Product:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD
Acute inhalation toxicity	:	Remarks: no data available

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Components:

Melamine:

Acute oral toxicity : LD50 (Rat, male and female): 3,161 - 3,828 mg/kg
Method: Other
GLP: No information available.
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.19 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : Remarks: no data available

Skin corrosion/irritation

Not classified due to lack of data.

Product:

Remarks : no data available

Components:

Melamine:

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

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Result : No eye irritation

Components:

Melamine:

Species : Rabbit
Result : No eye irritation
Method : Other
GLP : no

Respiratory or skin sensitisation

Skin sensitisation

Not classified due to lack of data.

Respiratory sensitisation

Not classified due to lack of data.

Product:

Remarks : no data available

Components:

Melamine:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
GLP	:	yes

Germ cell mutagenicity

Not classified due to lack of data.

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: Chromosome aberration test in vitro
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.

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

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 : In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects

Carcinogenicity

Suspected of causing cancer.

Product:

Carcinogenicity - Assessment : No information available.

Components:

Melamine:

Species	:	Rat, male and female
Application Route	:	oral (feed)
Exposure time	:	103 w
Control Group	:	yes
Frequency of Treatment	:	daily
	:	126 mg/kg bw/day
Method	:	Other
Result	:	equivocal
GLP	:	No information available.

Carcinogenicity - Assessment : Suspected human carcinogens

IARC Group 2B: Possibly carcinogenic to humans
Melamine 108-78-1

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Suspected of damaging fertility.

Product:

Reproductive toxicity - Assessment : No information available.

Components:

Melamine:

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Other
Method: Other
Remarks: Fertility and developmental toxicity tests did not reveal any effect on reproduction.

Effects on foetal development : Test Type: Pre-natal
Species: Rat, female
Strain: wistar
Application Route: oral (feed)
Dose: 136, 400, 1060 mg/kg bw/day
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 : Some evidence of adverse effects on sexual function and fertility, based on animal experiments.
Embryotoxicity classification not possible from current data.

STOT - single exposure

Not classified due to lack of data.

Components:

Melamine:

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

STOT - repeated exposure

Not classified due to lack of data.

Components:

Melamine:

Target Organs : Urinary tract
Assessment : May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Product:

Remarks : This information is not available.

Components:

Melamine:

Species	:	Rat, male and female
NOAEL	:	72 mg/kg bw/day
Application Route	:	oral (feed)
Exposure time	:	13 w
Dose	:	750 - 18000 ppm nominal in die
Control Group	:	yes
Method	:	Repeated Dose Toxicity (subchronic study)
GLP	:	No information available.
Target Organs	:	Urinary system, Bladder
Application Route	:	Inhalation
Remarks	:	This information is not available.
Application Route	:	Skin contact
Remarks	:	This information is not available.

Aspiration toxicity

Not classified due to lack of data.

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).

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: no data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: no data available
Toxicity to algae/aquatic plants	:	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 End point: mortality 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 End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: no Method: Regulation (EC) No. 440/2008, Annex, C.2 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to algae/aquatic plants	:	ErC50 (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)): >= 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)): >= 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 (Natural microorganism): > 100 mg/l Exposure time: 2 h Test Type: static test Analytical monitoring: yes Method: Other GLP: no

Persistence and degradability

Product:

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

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.

Partition coefficient: n-octanol/water : log Pow: -1.22 (72 °F / 22 °C)
pH: 8
Method: Regulation (EC) No. 440/2008, Annex, A.8
GLP: no

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

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 : Substance is not persistent, bioaccumulative, and toxic (PBT).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization 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

Contaminated packages or drums must be treated as waste, and must be disposed of or treated for reuse/recycling in an installation approved by Environmental Authorities according to local regulations. The wastes generated from such treatment of the packages must be processed in order to avoid environmental contamination.

SECTION 14. TRANSPORT INFORMATION

DOT	not restricted
IATA	not restricted
IMDG	not restricted

SECTION 15. REGULATORY INFORMATION

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 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Carcinogenicity
Reproductive toxicity

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 Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

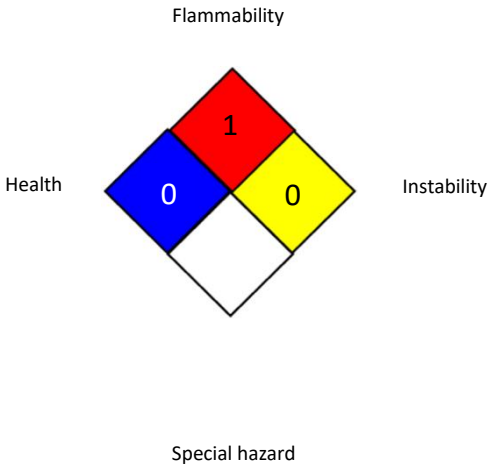
The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory, All components are compliant with the TSCA Inventory Notification (Active) rule.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Full text of other abbreviations

US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
US WEEL / TWA	:	8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; 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 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; TECI - Thailand Existing Chemicals 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

Revision Date : 03/05/2024

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