SAFETY DATA SHEET

acc. to 29 CFR 1910.1200 App D

Version number: GHS 1.0

Date of compilation: 2019-11-21
OROAGRI 151:

SECTION 1: Identification

1.1 Product identifier

Trade name **ATTITUDE**

Product code(s) OR-278-C

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

Relevant identified uses Acidifying concentrate

Uses advised against None.

1.3 Details of the supplier of the safety data sheet

Oro Agri, Inc.
2788 S. Maple Ave.
Fresno CA 93725
United States

e-mail: SDS-NA@oroagri.com

1.4 Emergency telephone number

Incident, Spill, Leak, Fire, Exposure or Accident
Call CHEMTREC Day or Night

Within USA and Canada:
1 (800) 424-9300

Outside USA:
+1 (703) 741-5970.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity (inhal.).	4.
Serious eye damage/eye irritation.	1.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word **DANGER**

- Pictograms

Hazard statements

Causes serious eye damage. Harmful if inhaled.

Precautionary statements - prevention

Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear eye protection/face protection.

Precautionary statements - response

If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.

2.3 Other hazards

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture

100% Proprietary Blend .

SECTION 4: First-aid measures

4.1 Description of first- aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing and wash it before reuse. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if inhaled. Causes eye irritation. Localized redness, edema, pruritis and/or pain.

4.3 Indication of any immediate medical attention and special treatment needed

In case of burns and frostbite: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Do not use water jet as this will spread the fire.

5.2 Special hazards arising from the substance or mixture

In case of fire and/or explosion do not breathe fumes.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO_2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Protective clothing against liquid and gaseous chemicals, including liquid aerosols and solid particles, Wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area. Wear suitable protective clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Eliminate all ignition sources if safe to do so. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear suitable protective clothing.

6.2 Environmental precautions

Avoid release to the environment. Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Set up barriers, Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.)

Appropriate containment techniques

Use of adsorbent materials. Stop leak if safe to do so.

Equipment required for containment/clean-up

Non-sparking tools and equipment, Collecting basins for spills, Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.), Personal protective equipment: see section 8

Other information relating to spills and releases

Ventilate affected area. Place in appropriate containers for disposal. Take any precaution to avoid mixing with combustibles.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs. Avoid contact with eyes. Wear personal protective equipment/face protection. Avoid release to the environment. Employ good industrial hygiene practice.

7.2 Conditions for safe storage, including any incompatibilities

Control of the effects

Keep in a cool, well-ventilated place. Protect from sunlight. Store in a dry place. Store in a closed container. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Keep away from clothing as well as other incompatible materials. Incompatible materials: see section 10.

Protect against external exposure, such as

Frost, UV-radiation/sunlight

- Ventilation requirements

Keep any substance that emits harmful vapors or gases in a place that allows these to be permanently extracted.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of substance	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Source
US	Proprietary Component	TLV®			1,000		ACGIH® 2019
US	Proprietary Component	REL	1,000 (10 h)	1,900 (10 h)			NIOSH REL
US	Proprietary Component	PEL (CA)	1,000	1,900			Cal/OSHA PEL
US	Proprietary Component	PEL	1,000	1,900			29 CFR 1910.1000

Notation

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified

8.2 Exposure controls

Appropriate engineering controls

Exhaust ventilation. Use explosion-proof electrical/ventilating/lighting/tooling /equipment.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection. Use safety goggle with side protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Protective clothing against liquid chemicals. Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Thermal hazards

Wear protective gloves against thermal risks (heat and/or fire).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

8.2.4 Advice on general occupational hygiene

Employ good industrial hygiene practice. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	various
Odor	characteristic
Odor threshold	no data available

Other safety parameters

pH (value)	2.7
Melting point/freezing point	not determined
Initial boiling point and boiling range	not determined
Flash point	98.7 °C at 717.1 mmHg (209.7 °F at 717.1 mmHg)
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Explosive limits	not determined
Vapor pressure	not determined
Density	1.084 $^{g}/_{cm^3}$ at 20 °C
Vapor density	this information is not available
Solubility(ies)	not determined

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined
Decomposition temperature	no data available

Viscosity

- Dynamic viscosity	1 cP at 25 °C

Explosive properties	none
Oxidizing properties	none

9.2 Other information

Surface tension	35.7 $^{dyn}/_{cm}$ (25 °C, 342 ppm)

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions. Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

Incompatible materials: see section 10.

10.5 Incompatible materials

Oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Harmful if inhaled.

GHS of the United Nations, annex 4: May be harmful if swallowed or in contact with skin.

Acute toxicity			
Exposure route	**Endpoint**	**Value**	**Species**
oral	LD50	2,500 $^{mg}/_{kg}$	rat
dermal	LD50	>2,000 $^{mg}/_{kg}$	rat
inhalation: dust/mist	LC50	>4.161 $^{mg}/_{l}$/4h	rat

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not assigned
14.3	**Transport hazard class(es)**	not assigned
14.4	**Packing group**	not assigned
14.5	**Environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT)

Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

none of the ingredients are listed

Clean Air Act

none of the ingredients are listed

New Jersey Worker and Community Right to Know Act

Right to Know Hazardous Substance List		
Name of substance	**Remarks**	**Classifications**
Proprietary Component		CA MU TE F3

Legend

CA	Carcinogenic
F3	Flammable - Third Degree
MU	Mutagenic
TE	Teratogenic

VOC content

Regulated Volatile Organic Compounds (VOC-EPA): Regulated Volatile Organic Compounds (VOC-Cal ARB):

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	3	major injury likely unless prompt action is taken and medical treatment is given
Flammability	0	material that will not burn under typical fire conditions
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	0	material that will not burn under typical fire conditions
Health	3	material that, under emergency conditions, can cause serious or permanent injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information, including date of preparation or last revision

Revision date 2019-11-21

Version number GHS 1.0

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR § 40 U.S. Department of Transportation
ACGIH® 2019	From ACGIH®, 2019 TLVs® and BEIs® Book. Copyright 2019. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
Cal ARB	California Air Resources Board
DGR	Dangerous Goods Regulations (see IATA/DGR)
EPA	Environmental Protection Agency. An agency of the federal government of the United States charged with protecting human health and the environment
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)

Abbr.	Descriptions of used abbreviations
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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