



G-Biosciences, St Louis, MO, USA ♦ 1-800-628-7730 ♦ 1-314-991-6034 ♦ technical@GBiosciences.com

A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

OneQuant™ Alum Adjuvant

Cat. # 786-2222



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Alum Adjuvant

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 12/20/2016 Revision date: 3/12/2025 Supersedes: 1/17/2025 Version: 11.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Alum Adjuvant
Product code : 195A

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Supplier's details

G-Biosciences/ Geno Technology, Inc.
9800 Page Avenue
St. Louis, MO 63132-1429, USA
Tel.1-800-628-7730
www.GBiosciences.com

1.5. Emergency phone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. Label elements

GHS US labeling

No labeling applicable

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

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Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
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aluminium hydroxide	A 3011 / AC 450 / AC 714 KC / AF 260 / AKP-DA / ALCAN SF 11E / alcoa 331 / alcoa 710 / alcoa AS 301 / alcoa C 30 BF / alcoa C 31 / alcoa C 33 / alcoa C 330 / alcoa C 331 / alcoa C 333 / alcoa C 385 / alcoa H 65 / aldrox / alhydrogel / alkagel / alot 8 / alot 80 / alot 90 / alpha-alumina trihydrate / alternagel / alucol / AL-U-CREME / aludrox / alugel / alugelibys / alumigel / alumina hydrate / alumina hydrated / alumina trihydrate / aluminic acid (H3AlO3) / aluminium hydrate / aluminium hydroxide / aluminium hydroxide,gel / aluminium oxide (AlO3), trihydrate / aluminium oxide hydrate / aluminium oxide trihydrate / aluminium trihydrate / aluminium trihydroxide / aluminium(III) hydroxide / aluminum hydroxide (Al(OH)3) / alusal / amberol ST 140F / amphogel / amphojel / antidiar / antipollon HT / apyral / apyral 120 / apyral 120	CAS-No.: 21645-51-2	0.5 – 2	Not classified
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	VAW / apyral 15 / apyral 2 / apyral 24 / apyral 25 / apyral 4 / apyral 40 / apyral 60 / apyral 8 / apyral 90 / apyral B / apyral B 2 / apyral B 60 / apyral B 90 / ATH 30 / ATH A208 / ATH-CM 432 / B 103 / B 103 (hydroxide) / B 1403 / B 1403S / B 153 / B 303 / B 515 / B 53 / B 53 (hydroxide) / B 700 / B 703 / B 703S / baco AF 230 / BACO AF 260 / baco AFRF 20 / baco FRF 40 / baco FRF 80 / baco FRF 80S5 / baco FRF 85 / baco FRF-LV 1S5 / baco SF 7S3a / BMZ / British aluminium AF 260 / BW 103 / BW 53 / C 12 / C 301 / C 301 (hydroxide) / C 303 / C 303 (hydroxide) / C 303 H / C 308 / C 308 (hydroxide) / C 31 / C 315 / C 315H / C 31C / C 31F / C 325 / C 325 (hydroxide) / C 33 / C 333 / C 385 / C 4D / calmogastrin / catapal B / CE 30E / chefarox / CHP 340S / CI 77002 / CL 303 / CL 310 / CL 310 (hydroxide) / collumol / creamalin / cremorin / CW 308S / CW 315 / CW 325 / CW 325LV / CW 375HT / CW 380S / CWL 326S / DT			
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	<p>079 / F 1000 / F 1000 (pharmaceutical) / F 2000 / F 2000 (hydroxide) / fluagel / FM / FM (filler) / gelumina / GHA 131 / GHA 331 / GHA 332 / GHA 431 / GHA 731 / H 21 / H 30 C / H 31 / H 310ST / H 311 / H 32 / H 320 / H 34 L / H 42 / H 42M / H 42ST / H 46 / HAL 43 / highlite H 43 / higilite / higilite 42M / higilite 42S / higilite H / higilite H 10 / higilite H 100 / higilite H 10C / higilite H 141 / higilite H 21 / higilite H 210 / higilite H 30 / higilite H 31 / higilite H 310 / higilite H 311 / higilite H 31S / higilite H 32 / higilite H 320 / higilite H 320I / higilite H 320ST / higilite H 32I / higilite H 32IX / higilite H 32S / higilite H 32ST / higilite H 32TX / higilite H 34 / higilite H 34HL / higilite H 40 / higilite H 41 / higilite H 42 / higilite H 42H / higilite H 42I / higilite H 42M / higilite H 42S / higilite H 43M / higilite H 43S / higilite H 52M / higilite HBT 320 / higilite HS 320ST / higilite HWC / higilite NB 1 / HWC / hychol 705</p>			
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	<p>/ hycolal / hydrafil / hydal 700 / hydal 705 / hydal 710 / hydal 710B / hydal 710W / hydal PGA / hydrated alumina / hydrated aluminum oxide / hydrolum / hydroxal / kyowaad 200S / kyowaad S 200S / LA / LA (filler) / liquigel / MARTINAL / martinal 104C / MARTINAL A / MARTINAL A/S / martinal BM2 / martinal E / martinal F / MARTINAL F-A / martinal OL 111 / martinal OL 921 / martinal ON 320 / MARTINAL ON- 310 / martinal VPF 8907 / martinal X / MARTINAL- 107LE / MARTINAL- 111LE / merlum / micral 855 / micral 916 / micral 932 / mucogel / P 30 BF / paperad / pepsamar / PGA / REHEIS F 1000 / reheis F 2000 / RH 31F / RH 730 / S 100 / S 100 (filler) / SB 136 / SB 432 / SB 632 / securoc cable / securoc cable plus / SF 7 / SF 7 (hydroxide) / solem OE 431 / solem SB 36 / solem SB 632 / spacerite 509A / spacerite S 11ATH / spacerite S 23ATH /</p>			
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Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
	spacerite S 3ATH / takallophane / tomix AD 220 / trihyde OL / trihydrated alumina / trihydroxyaluminium / trikup 710B / UF 35E / ultrafine 15E / ultrafine 25E / ultrafine 35E / uracid / vanogel			

Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center/doctor/physician if you feel unwell.
Self protection of the first-aider	: First aid workers will be equipped with suitable personal protective equipment.

4.2. Most important symptoms/effects, acute and delayed

Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: None under normal conditions.
Symptoms/effects after ingestion	: None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

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5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
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For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. Evacuate unnecessary personnel.

For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Ventilate area. Evacuate unnecessary personnel. Stop leak if safe to do so.
Environmental precautions	: Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

For containment	: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
Methods for cleaning up	: Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
Other information	: Dispose of materials or solid residues at an authorized site.

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.

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7.2. Conditions for safe storage, including incompatibilities

Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.
Incompatible products	: Strong bases. Strong acids.
Incompatible materials	: Sources of ignition. Direct sunlight.
Packaging materials	: Store always product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

aluminium hydroxide (21645-51-2)

USA - ACGIH - Occupational Exposure Limits

ACGIH® TLV® TWA	1 mg/m ³ (Respirable fraction)
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8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Protective gloves. Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses. Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate mask

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke during use.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Color	: Colorless
Odor	: characteristic
Odor threshold	: No data available

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pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Flammability (solid, gas)	: Not applicable. Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Not established.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hazardous decomposition products. fume. Carbon monoxide. Carbon dioxide.

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

aluminium hydroxide (21645-51-2)

LD50 oral rat	> 2000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 14 day(s))
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aluminium hydroxide (21645-51-2)	
LC50 Inhalation - Rat	> 2.3 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Read-across, Inhalation (aerosol), 14 day(s))

Skin corrosion/irritation : Not classified

aluminium hydroxide (21645-51-2)	
pH	7.5 – 11 (10 %)

Serious eye damage/irritation : Not classified

aluminium hydroxide (21645-51-2)	
pH	7.5 – 11 (10 %)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

aluminium hydroxide (21645-51-2)	
Viscosity, kinematic	Not applicable (solid)

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/effects after inhalation : None under normal conditions.

Symptoms/effects after skin contact : None under normal conditions.

Symptoms/effects after eye contact : None under normal conditions.

Symptoms/effects after ingestion : None under normal conditions.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

aluminium hydroxide (21645-51-2)	
LC50 - Fish [1]	> 218 mg/l (US EPA, 96 h, Pimephales promelas, Semi-static system, Fresh water, Experimental value of similar product, Aluminium)

12.2. Persistence and degradability

Alum Adjuvant

Persistence and degradability : Not established.

aluminium hydroxide (21645-51-2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

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12.3. Bioaccumulative potential

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Bioaccumulative potential : Not established.

aluminium hydroxide (21645-51-2)

Bioaccumulative potential : Not bioaccumulative.

12.4. Mobility in soil

aluminium hydroxide (21645-51-2)

Ecology - soil : No (test)data on mobility of the substance available.

12.5. Other adverse effects

Ozone : Not classified
Fluorinated greenhouse gases : No
Other information : Avoid release to the environment.

SECTION 13 Disposal considerations

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Waste treatment methods.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.
Ecological waste information : Avoid release to the environment.

SECTION 14 Transport information

In accordance with DOT / TDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT) : Not regulated
Proper Shipping Name (TDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not regulated

TDG
Transport hazard class(es) (TDG) : Not regulated

IATA
Transport hazard class(es) (IATA) : Not regulated

14.4. Packing group

Packing group (DOT) : Not regulated

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Packing group (TDG) : Not regulated
Packing group (IATA) : Not regulated

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
aluminium hydroxide	21645-51-2	Not present	-	

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. State regulations

No additional information available

SECTION 16 Other information

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Revision date : 3/12/2025
Date of issue : 12/20/2016
Other information : None.

Abbreviations and acronyms	
ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road

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Abbreviations and acronyms	
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety & Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet

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Abbreviations and acronyms	
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.