SAFETY DATA SHEET

FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL:	1-800-654-6911 (OUTSIDE USA: 1-423-780-2970)
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®:	1-800-424-9300 (OUTSIDE USA: 1-703-527-3887)
FOR ALL SDS QUESTIONS & REQUESTS, CALL:	1-800-511-MSDS (OUTSIDE USA: 1-423-780-2347)

PRODUCT NAME: **Cell Saver**

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Advantis Technologies
1200 Bluegrass Lakes Parkway
Alpharetta, GA 30004
United States of America

REVISION DATE:	05/27/2015
SUPERCEDES:	05/20/2009
MSDS Number:	000000024456
SYNONYMS:	
CHEMICAL FAMILY:	None
DESCRIPTION / USE	None established
FORMULA:	None established

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)
Specific target organ toxicity - repeated exposure	:	Category 2

GHS Label element

Hazard pictograms :

Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or

repeated exposure.

Precautionary statements : **Prevention:**
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310 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 or doctor/ physician.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
P363 Wash contaminated clothing before reuse.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME	CAS #	% RANGE
GLYCINE, N- (2-BIS(CARBOXMETHYL)AMINO)ETHYL)-N-2-HYDROXYETHYL)-, Trisodium Salt	139-89-9	27 - 37
ALUMINUM CHLORIDE	7446-70-0	1 - 11
Sodium hydroxide	1310-73-2	0 - 7
Trisodium nitrilotriacetate	5064-31-3	0 - 5

SECTION 4. FIRST AID MEASURES

Inhalation:	IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. If not breathing, give artificial respiration. Call for medical assistance.
Skin Contact:	IF ON SKIN: Immediately flush skin with plenty of water for 15 minutes. If clothing comes in contact with the product, the clothing should be removed immediately and laundered before re-use. Seek medical attention if irritation develops.
Eye Contact:	IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention immediately.
Ingestion:	IF SWALLOWED: Call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person.
Notes to Physician:	Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

Flammability Summary (OSHA):	The product is not flammable., Not combustible., The substance or mixture is not classified as pyrophoric., Not explosive

Flammable Properties

Fire / Explosion Hazards:	0 - Will not burn
Extinguishing Media:	Dry chemical Foam Carbon dioxide (CO2) Water
Fire Fighting Instructions:	Use water spray to cool unopened containers. In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus.
Hazardous Combustion Products:	During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations:	Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to boots, impervious gloves, hard hat, splash-proof goggles, impervious clothing, i.e., chemically impermeable suit, self-contained breathing apparatus.

Spill Mitigation Procedures

Air Release:	Keep people away from and upwind of spill/leak.
Water Release:	If the product contaminates rivers and lakes or drains inform respective authorities.soluble

Land Release:	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).Do not contaminate ponds, waterways or ditches with chemical or used container.
Additional Spill Information :	Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas.

SECTION 7. HANDLING AND STORAGE

Handling:	Do not take internally. Avoid contact with skin, eyes and clothing. If in eyes or on skin, rinse well with water. Avoid breathing vapours, mist or gas.
Storage:	Store in a cool, dry and well ventilated place. Isolate from incompatible materials. Do not freeze.
Incompatible Materials for Storage:	Refer to Section 10, "Incompatible Materials."
Empty Container Warning:	Empty containers retain hazardous residue, dispose of accordingly.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:	Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Protective Equipment for Routine Use of Product

Respiratory Protection :	Wear a NIOSH approved respirator if levels above the exposure limits are possible., Wear a NIOSH approved N95 respirator.
Skin Protection :	Avoid contact with skin. Impervious gloves Boots Apron A full impervious suit is recommended if exposure is possible to a large portion of the body.
Eye Protection:	Chemical resistant goggles must be worn. Face-shield
Protective Clothing Type:	impervious clothing
General Protective Measures:	Ensure that eyewash stations and safety showers are close to the workstation location.

Components with workplace control parameters

Components (CAS-No.)	Value	Control parameters	Basis (Update)
ALUMINUM CHLORIDE (7446-70-0)	TWA	1 mg/m3	ACGIH (02 2014)
Sodium hydroxide (1310-73-2)		2 mg/m3	ACGIH (02 2014)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Form	No data.
Color:	No data.
Odor:	No data.
Molecular Weight:	None established
pH :	8.5 - 9.0 ()
Boiling Point:	no data available
Melting point/freezing point	No data
Bulk Density:	() no data available
Vapor Pressure:	no data available
Vapor Density:	no data available
Viscosity:	no data available
Solubility in Water:	soluble in cold water
Partition coefficient n-octanol/water:	No data.
Evaporation Rate:	no data available
Oxidizing:	None established
Volatiles, % by vol.:	no data available
VOC Content	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). This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.
HAP Content	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Stable under normal conditions.
Conditions to Avoid:	Heat
Chemical Incompatibility:	Oxidizing agents, Aluminium
Hazardous Decomposition Products:	Chlorine, Hydrogen chloride
Decomposition Temperature:	No data

SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:

GLYCINE, N- (2-BIS(CARBOXMETHYL) AMINO)ETHYL)-N-2-HYDROXYETHYL)-, Trisodium Salt	LD50	Approximately	10,000 mg/kg	Rat

ALUMINUM CHLORIDE	LD50 = 3,450 mg/kg	Rat
Sodium hydroxide	LD50 Believed to be 300 - 500 mg/kg	Rat
Trisodium nitrilotriacetate	> 1,100.0 mg/kg	Rat

Component Animal Toxicology
Dermal LD50 value:

GLYCINE, N- (2-BIS(CARBOXMETHYL) AMINO)ETHYL)-N-2-HYDROXYETHYL)-, Trisodium Salt	no data available
ALUMINUM CHLORIDE	LD50 > 2,000 mg/kg Rabbit
Sodium hydroxide	no data available

Component Animal Toxicology
Inhalation LC50 value:

GLYCINE, N- (2-BIS(CARBOXMETHYL) AMINO)ETHYL)-N-2-HYDROXYETHYL)-, Trisodium Salt	Rats exposed for 8 hours to an unknown concentration of the test substance resulted in no deaths and no clinical signs of toxicity observed in the animals.
ALUMINUM CHLORIDE	LC50 no data available
Sodium hydroxide	No data
Trisodium nitrilotriacetate	LC50 4 h > 5 mg/l Rat

Product Animal Toxicity

Oral LD50 value:	LD50 Believed to be 4 - 5 g/kg. Rat
Dermal LD50 value:	no data available
Inhalation LC50 value:	no data available
Skin Irritation:	Corrosive to skin
Eye Irritation:	Corrosive to eyes
Skin Sensitization:	Not believed to be sensitising to skin.

GLYCINE, N- (2-BIS(CARBOXMETHYL)AMINO)ETHYL)-N-2-HYDROXYETHYL)-, Trisodium Salt	A similar product was found to be a negative skin sensitizer in the Guinea pig maximization method test.
Trisodium nitrilotriacetate	

Acute Toxicity:	Corrosive to eyesCorrosive to skinMay cause respiratory tract irritation.
Subchronic / Chronic Toxicity:	Not known or reported to cause subchronic or chronic toxicity.

Reproductive and Developmental Toxicity:	Not known or reported to cause reproductive or developmental toxicity.
Mutagenicity:	Not known or reported to be mutagenic.
GLYCINE, N- (2-BIS(CARBOXMETHYL)AMINO)ETHYL)-N-2-HYDROXYETHYL)-, Trisodium Salt	This product was determined to be non-mutagenic in the Ames assay.
ALUMINUM CHLORIDE	This material has been shown to be non-mutagenic in the majority of a battery of assays. Not expected to be a mutagenic hazard.
Sodium hydroxide	This chemical has been shown to be non-mutagenic based on a battery of assays.
Carcinogenicity:	The International Agency for Research on Cancer (IARC) has classified this product or a component of this product as a Group 2B substance, Possibly Carcinogenic to Humans.
Sodium hydroxide	This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.
Trisodium nitrilotriacetate	The International Agency for Research on Cancer (IARC) has classified this product or a component of this product as a Group 2B substance, Possibly Carcinogenic to Humans.

SECTION 12. ECOLOGICAL INFORMATION

Overview: No data for product. Individual constituents are as follows:

Ecological Toxicity Values for: GLYCINE, N- (2-BIS(CARBOXMETHYL)AMINO)ETHYL)-N-2-HYDROXYETHYL)-, Trisodium Salt

Leuciscus idus (Golden orfe)	-	static test 96 h LC50 > 2,200 mg/l
Daphnia magna (Water flea)	-	static test 48 h EC50> 500 mg/l

Ecological Toxicity Values for: ALUMINUM CHLORIDE

Rainbow trout (Oncorhynchus mykiss)	-	96 h LC50 6.1 mg/l
Mosquito fish	-	96 h LC50 27.1 mg/l
Daphnia magna,	-	48 h LC50 3.9 mg/l

Ecological Toxicity Values for: Sodium hydroxide

Mosquito fish	-	96 h LC50 = 125 mg/l
Bluegill	-	48 h LC50 = 99 mg/l

Ecological Toxicity Values for: Trisodium nitrilotriacetate

Lepomis macrochirus (Bluegill sunfish)	-	96 h LC50 = 198 mg/l
Pimephales promelas (fathead minnow)	-	96 h LC50 = 127 mg/l
Oncorhynchus mykiss (rainbow trout)	-	96 h LC50 = 98 mg/l
Daphnia magna (Water flea)	-	48 h LC50= 560 mg/l

SECTION 13. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Waste Disposal Summary : If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.As a nonhazardous liquid waste, it should be disposed of in accordance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

DOT

UN number	:	1760
Description of the goods	:	Corrosive liquids, n.o.s.
	:	(aluminium chloride, Sodium hydroxide)
Class	:	8
Packing group	:	II
Labels	:	8
Emergency Response Guidebook Number	:	154

TDG

UN number	:	1760
Description of the goods	:	CORROSIVE LIQUID, N.O.S. (aluminium chloride, Sodium hydroxide)
Class	:	8
Packing group	:	II
Labels	:	8

IATA

UN number	:	1760
Description of the goods	:	Corrosive liquid, n.o.s. (aluminium chloride, Sodium hydroxide)
Class	:	8
Packing group	:	II
Labels	:	8
Packing instruction (cargo aircraft)	:	855
Packing instruction (passenger aircraft)	:	851
Packing instruction (passenger aircraft)	:	Y840

IMDG-CODE

UN number	:	1760
Description of the goods	:	CORROSIVE LIQUID, N.O.S. (aluminium chloride, Sodium hydroxide)
Class	:	8
Packing group	:	II
Labels	:	8
EmS Number 1	:	F-A
EmS Number 2	:	S-B

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sodium hydroxide	1310-73-2	1000	

SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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 12 (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

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Sodium hydroxide	1310-73-2	2.0644 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Sodium hydroxide	1310-73-2	2.0644 %

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

US State Regulations

Massachusetts Right To Know

aluminium chloride	7446-70-0
Sodium hydroxide	1310-73-2
Trisodium nitrilotriacetate	5064-31-3

Pennsylvania Right To Know

Glycine, N-[2-[bis(carboxymethyl)amino]ethyl]-N-(2-hydroxyethyl)-, trisodium salt	139-89-9
aluminium chloride	7446-70-0
Sodium hydroxide	1310-73-2

New Jersey Right To Know

Glycine, N-[2-[bis(carboxymethyl)amino]ethyl]-N-(2-hydroxyethyl)-, trisodium salt	139-89-9
aluminium chloride	7446-70-0
Sodium hydroxide	1310-73-2

California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

TSCA : The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

SECTIONS REVISED: First formulated version in SAP.
Major References : Available upon request.