SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.
Revision date 22-Nov-2016
Version 4

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Product Name	TBS Blotto A Vial 1
Product Code	SC-2333
Pure substance/mixture	mixture

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

For research use only. Not intended for diagnostic or therapeutic use.

1.3. Details of the supplier of the safety data sheet

Santa Cruz Biotechnology, Inc. 10410 Finnell Street Dallas, TX 75220 831.457.3800 800.457.3801 scbt@scbt.com	Santa Cruz Biotechnology, Inc. Bergheimer Str. 89-2 69115 Heidelberg, Germany +49.6221.4503 0 +1.800.457.3801 europe@scbt.com

1.4. Emergency telephone number

Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Serious eye damage/eye irritation	Category 2 - (H319)
Specific target organ toxicity (single exposure)	Category 3 - (H335)

2.2. Label Elements

Signal word	Warning
Symbols/Pictograms	
Hazard statements	H319 - Causes serious eye irritation H335 - May cause respiratory irritation

EUH210 - Safety data sheet available on request

2.3. Other Hazards

General Hazards	Not applicable

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Weight No information available
Formula No information available

3.2 mixtures

Chemical Name	EC No	CAS No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Blotto, non-fat dry milk	-	-	55.2	-
Sodium Chloride	Present	7647-14-5	35.16	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)
Tris, Hydrochloride	Present	1185-53-1	8.97	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)
Tris base	Present	77-86-1	0.67	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice: If symptoms persist, call a physician.

Inhalation: Remove to fresh air. If symptoms persist, call a physician. Artificial respiration and/or oxygen may be necessary. Call a physician. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing.

Ingestion: Immediate medical attention is not required. Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider: Use personal protective equipment as required.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical: No information available

Hazardous combustion products: No information available.

5.3. Advice for firefighters

Special protective equipment for fire-fighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment as required. Avoid contact with eyes and skin. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Take precautionary measures against static discharges.

6.4. Reference to other sections

See Section 12: ECOLOGICAL INFORMATION.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling	Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Use with local exhaust ventilation. Do not breathe dust/fume/gas/mist/vapors/spray.
General Hygiene Considerations	When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Derived No Effect Level (DNEL)	No information available
Predicted No Effect Concentration (PNEC)	No information available.

8.2. Exposure controls

Engineering Controls	Showers Eyewash stations Ventilation systems
Eye/face protection	Tight sealing safety goggles. Face protection shield.
Skin and Body Protection	Suitable protective clothing. Apron. Gloves made of plastic or rubber.

Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Environmental exposure controls	Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	No information available
Odor	No information available

Property	**Values**
pH	No information available
Melting point/freezing point	No information available
Boiling point	No information available
Flash point	No information available
Density	No information available
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity	Not applicable

10.2. Chemical stability

Stability	Stable under recommended storage conditions.
Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

10.3. Possibility of hazardous reactions

Hazardous polymerization	No information available.
Possibility of Hazardous Reactions	None under normal processing.

10.4. Conditions to avoid

Conditions to avoid	Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Incompatible materials	Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous Decomposition Products	None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information: Product does not present an acute toxicity hazard based on known or supplied information.

Unknown acute toxicity: 0% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral): 8,532.00 mg/kg

ATEmix (dermal): 28,441.00 mg/kg

ATEmix (inhalation-vapor): 119.00 mg/l

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium Chloride	= 3 g/kg (Rat)	> 10 g/kg (Rabbit)	> 42 g/m³ (Rat) 1 h
Tris base	= 5900 mg/kg (Rat)		

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: May cause long lasting harmful effects to aquatic life.

Unknown aquatic toxicity: 8.97% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Sodium Chloride		5560 - 6080: 96 h Lepomis macrochirus mg/L LC50 flow-through 12946: 96 h Lepomis macrochirus mg/L LC50 static 4747 - 7824: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 7050: 96 h Pimephales promelas mg/L LC50 semi-static 6420 - 6700: 96 h Pimephales promelas mg/L LC50 static 6020 - 7070: 96 h Pimephales promelas mg/L LC50 static	340.7 - 469.2: 48 h Daphnia magna mg/L EC50 Static 1000: 48 h Daphnia magna mg/L EC50

12.2. Persistence and degradability

Persistence and degradability: No information available.

12.3. Bioaccumulative potential

Bioaccumulation: No information available.

12.4. Mobility in soil

Mobility: No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment: No information available.

12.6. Other adverse effects

Other adverse effects: No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products: Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging: Do not reuse container.

Other Information — Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

	RID / ADR	IMDG	ICAO (air) / IATA
	Not regulated	Not regulated	Not regulated
14.1 UN/ID no	-	-	-
14.2 Proper shipping name	-	-	-
14.3 Hazard Class	-	-	-
Subsidiary hazard class / Labels	-	-	-
14.4 Packing Group	-	-	-
14.5 Environmental Hazard	-	-	-
14.6 Special Provisions	-	-	-

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National Regulations

Chemical Name	French RG number	Title
Sodium Chloride 7647-14-5	RG 78	

European Union
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

International Inventories
All of the components in the product are on the following Inventory lists
No information available

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Sodium Chloride	X	X	-	X	-	X	X	X	X	X
Tris, Hydrochloride	X	X	-	X	-	-	X	X	X	X
Tris base	X	X	-	X	-	X	X	X	X	X

X - Listed
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

15.2. Chemical safety assessment
Chemical Safety Report — No information available

Section 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Revision note — No information available.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Product Name	TBS Blotto A Vial 2: Tween 20
Product Code	SC-2333 VIAL 2
CAS No	9005-64-5

1.2. Relevant identified uses of the substance or mixture and uses advised against
For research use only. Not intended for diagnostic or therapeutic use.

1.3. Details of the supplier of the safety data sheet

Santa Cruz Biotechnology, Inc.	Santa Cruz Biotechnology, Inc.
10410 Finnell Street	Bergheimer Str. 89-2
Dallas, TX 75220	69115 Heidelberg, Germany
831.457.3800	+49.6221.4503 0
800.457.3801	+1.800.457.3801
scbt@scbt.com	europe@scbt.com

1.4. Emergency telephone number
Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Regulation (EC) No 1272/2008
This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label Elements
This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Signal word	Not classified
Symbols/Pictograms	Not classified
Hazard statements	Not classified

2.3. Other Hazards

General Hazards	Not applicable

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Weight	1227.54
Formula	$C_{58}H_{114}O_{26}$

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Consult a physician if necessary.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.
Skin Contact	Wash skin with soap and water.
Eye contact	Wash with plenty of water.
Ingestion	Never give anything by mouth to an unconscious person. Clean mouth with water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available
Hazardous combustion products	No information available.

5.3. Advice for firefighters

Special protective equipment for fire-fighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation, especially in confined areas.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

6.4. Reference to other sections

See Section 12: ECOLOGICAL INFORMATION.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Derived No Effect Level (DNEL)	No information available
Predicted No Effect Concentration (PNEC)	No information available.

8.2. Exposure controls

Engineering Controls	Showers Eyewash stations Ventilation systems
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and Body Protection	Wear protective gloves and protective clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Environmental exposure controls	No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	liquid
Appearance	No information available
Odor	No information available

Property	**Values**
pH	No information available
Melting point/freezing point	No information available
Boiling point	No information available
Flash point	No information available
Density	No information available
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity	Not applicable

10.2. Chemical stability

Stability	Stable under recommended storage conditions.
Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

10.3. Possibility of hazardous reactions

Hazardous polymerization	No information available.
Possibility of Hazardous Reactions	None under normal processing.

10.4. Conditions to avoid

Conditions to avoid	Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Incompatible materials	Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous Decomposition Products	None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information	Product does not present an acute toxicity hazard based on known or supplied information.
Unknown acute toxicity	0% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	36,589.90 mg/kg

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity	May cause long lasting harmful effects to aquatic life.
Unknown aquatic toxicity	100% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability	No information available.

12.3. Bioaccumulative potential

Bioaccumulation	No information available.

12.4. Mobility in soil

Mobility	No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment	No information available.

12.6. Other adverse effects

Other adverse effects	No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Do not reuse container.

Section 14: TRANSPORT INFORMATION

	RID / ADR	IMDG	ICAO (air) / IATA
	Not regulated	Not regulated	Not regulated
14.1 UN/ID no	-	-	-
14.2 Proper shipping name	-	-	-
14.3 Hazard Class	-	-	-
Subsidiary hazard class / Labels	-	-	-
14.4 Packing Group	-	-	-
14.5 Environmental Hazard	-	-	-
14.6 Special Provisions	-	-	-

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National Regulations

European Union
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

International Inventories
All of the components in the product are on the following Inventory lists
TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL): China (IECSC) ENCS (Japan): Philippines (PICCS)

X - Listed
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

15.2. Chemical safety assessment
Chemical Safety Report No information available

Section 16: OTHER INFORMATION

Revision note No information available.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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End of Safety Data Sheet