

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

1 Identification

- **Product identifier**
- **Trade name:** Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13
- **Article number:** 5913
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Aqua Solutions, Inc.
6913 Highway 225
DEER PARK, TX 77536
USA
800-256-2586
- **Information department:**
Technical Coordinator
Sherman Nelson shermann@aquasolutions.org
Technical Coordinator
Sherman Nelson shermann@aquasolutions.org
- **Emergency telephone number:**
Chemtrec: 800-424-9300
Canutec: 613-996-6666



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2

H225

Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Toxicity - Oral 3

H301

Toxic if swallowed.



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure 1 H370

Causes damage to the central nervous system and the visual organs.



GHS05 Corrosion

Eye Damage 1

H318

Causes serious eye damage.



GHS07

Acute Toxicity - Dermal 4

H312

Harmful in contact with skin.

Acute Toxicity - Inhalation 4

H332

Harmful if inhaled.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

(Contd. of page 1)

Skin Irritation 2

H315

Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· **Label elements**

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

n-Butyl Alcohol

Methanol

· **Hazard statements**

Highly flammable liquid and vapor.

Toxic if swallowed.

Harmful in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye damage.

Causes damage to the central nervous system and the visual organs.

May cause respiratory irritation. May cause drowsiness or dizziness.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Immediately call a poison center/doctor.

Specific treatment (see on this label).

Rinse mouth.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

IF exposed: Call a POISON CENTER or doctor/physician.

Call a poison center/doctor if you feel unwell.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

In case of fire: Use CO₂, powder or water spray to extinguish.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

(Contd. of page 2)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 71-36-3	n-Butyl Alcohol	44.014%
CAS: 67-56-1	Methanol	25.259%

· **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	29.267%
CAS: 7647-14-5	Sodium Chloride	0.813%
CAS: 7791-18-6	Magnesium Chloride Hexahydrate	0.494%
CAS: 10035-04-8	Calcium Chloride Dihydrate	0.154%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
 Immediately remove any clothing soiled by the product.
 Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
 In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
 Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
 In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

(Contd. of page 3)

- **Indication of any immediate medical attention and special treatment needed**
 No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
 CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
 During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 Mount respiratory protective device.
 Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
 Dilute with plenty of water.
 Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 Use neutralizing agent.
 Dispose contaminated material as waste according to section 13.
 Ensure adequate ventilation.
- **Reference to other sections**
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:

CAS: 71-36-3	<i>n</i> -Butyl Alcohol	60 ppm
CAS: 67-56-1	Methanol	530 ppm
CAS: 7791-18-6	Magnesium Chloride Hexahydrate	34 mg/m ³
CAS: 10035-04-8	Calcium Chloride Dihydrate	16 mg/m ³

· PAC-2:

CAS: 71-36-3	<i>n</i> -Butyl Alcohol	800 ppm
CAS: 67-56-1	Methanol	2,100 ppm
CAS: 7791-18-6	Magnesium Chloride Hexahydrate	370 mg/m ³
CAS: 10035-04-8	Calcium Chloride Dihydrate	170 mg/m ³

· PAC-3:

CAS: 71-36-3	<i>n</i> -Butyl Alcohol	8000** ppm
CAS: 67-56-1	Methanol	7200* ppm
CAS: 7791-18-6	Magnesium Chloride Hexahydrate	1,600 mg/m ³

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

CAS: 10035-04-8 Calcium Chloride Dihydrate

(Contd. of page 4)

1,100 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
 Keep ignition sources away - Do not smoke.
 Protect against electrostatic charges.
 Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 Keep receptacle tightly sealed.
 Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

· Components with limit values that require monitoring at the workplace:

CAS: 71-36-3 n-Butyl Alcohol

PEL	Long-term value: 300 mg/m ³ , 100 ppm
REL	Ceiling limit value: 150 mg/m ³ , 50 ppm
	Skin
TLV	Long-term value: 20 ppm

CAS: 67-56-1 Methanol

PEL	Long-term value: 260 mg/m ³ , 200 ppm
REL	Short-term value: 325 mg/m ³ , 250 ppm
	Long-term value: 260 mg/m ³ , 200 ppm
	Skin
TLV	Short-term value: 250 ppm
	Long-term value: 200 ppm
	Skin; BEI

· Ingredients with biological limit values:

CAS: 67-56-1 Methanol

BEI	15 mg/L
	LD50 Intraperitoneal: urine
	Time: end of shift
	LD50: Methanol (background, nonspecific)

- **Additional information:** The lists that were valid during the creation were used as basis.

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

(Contd. of page 5)

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
 Avoid contact with the skin.
 Avoid contact with the eyes and skin.
- **Breathing equipment:**
 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
 The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

* 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Liquid
Color:	Clear
Odor:	de l'alcool
- **Odor threshold:**

	l
	Not determined.
- **pH-value:**

	Not determined.
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(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

(Contd. of page 6)

· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	64 °C (147.2 °F)
· Flash point:	11 °C (51.8 °F)
· Flammability (solid, gaseous):	Highly flammable.
· Auto igniting:	340 °C (644 °F)
· Decomposition temperature:	Not determined.
· Ignition temperature:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	1.5 Vol %
Upper:	44 Vol %
· Vapor pressure at 20 °C (68 °F):	128 hPa (96 mm Hg)
· Density at 20 °C (68 °F):	0.87684 g/cm ³ (7.31723 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	69.3 %
Water:	29.3 %
VOC content:	69.27 %
	607.4 g/l / 5.07 lb/gal
Solids content:	1.5 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

US

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

(Contd. of page 7)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)

Oral	LD50	294 mg/kg
Dermal	LD50	1,188 mg/kg
Inhalative	LC50/4h	11.9 mg/l

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
 The product shows the following dangers according to internally approved calculation methods for preparations:
 Toxic
 Harmful
 Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

US

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024



Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

(Contd. of page 8)

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** *Disposal must be made according to official regulations.*
- **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

* 14 Transport information

- | | |
|--|---|
| <ul style="list-style-type: none"> · UN-Number · DOT, IMDG, IATA | <p style="text-align: right;"><i>UN1993</i></p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG, IATA | <p style="text-align: right;"><i>Flammable liquids, n.o.s. (Methanol, Butanols)</i>
 <i>FLAMMABLE LIQUID, N.O.S. (Methanol, Butanols)</i></p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | <p style="text-align: right;"><i>3 Flammable liquids</i>
 <i>3</i></p> |
| <ul style="list-style-type: none"> · IMDG, IATA | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | <p style="text-align: right;"><i>3 Flammable liquids</i>
 <i>3</i></p> |
| <ul style="list-style-type: none"> · Packing group · DOT, IMDG, IATA | <p style="text-align: right;"><i>II</i></p> |
| <ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: | <p style="text-align: right;"><i>No</i></p> |
| <ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category | <p style="text-align: right;"><i>Warning: Flammable liquids</i>
 <i>33</i>
 <i>F-E, S-E</i>
 <i>B</i></p> |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | <p style="text-align: right;"><i>Not applicable.</i></p> |

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

(Contd. of page 9)

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

· **IMDG**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 1993 **FLAMMABLE LIQUID, N.O.S. (METHANOL, BUTANOLS), 3, II**

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

CAS: 71-36-3 | n-Butyl Alcohol

CAS: 67-56-1 | Methanol

· **TSCA (Toxic Substances Control Act):**

n-Butyl Alcohol

ACTIVE

Water

ACTIVE

Methanol

ACTIVE

Sodium Chloride

ACTIVE

· **Hazardous Air Pollutants**

CAS: 67-56-1 | Methanol

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

CAS: 67-56-1 | Methanol

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 71-36-3 | n-Butyl Alcohol

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(Contd. on page 11)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

(Contd. of page 10)

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS05 GHS06 GHS08 GHS07

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

n-Butyl Alcohol

Methanol

· **Hazard statements**

Highly flammable liquid and vapor.

Toxic if swallowed.

Harmful in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye damage.

Causes damage to the central nervous system and the visual organs.

May cause respiratory irritation. May cause drowsiness or dizziness.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Immediately call a poison center/doctor.

Specific treatment (see on this label).

Rinse mouth.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

IF exposed: Call a POISON CENTER or doctor/physician.

Call a poison center/doctor if you feel unwell.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

In case of fire: Use CO₂, powder or water spray to extinguish.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 12)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/02/2024

Reviewed on 01/02/2024

Trade name: Mixed Salt Solution (Concentrated)
10:20:70 ASTM D3230-13

(Contd. of page 11)

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Environment protection department.

· **Contact:**

Date of Preparation / Last Revision:

· **Date of preparation / last revision**

Revision 0.1,07-18-2019: reviewed SDS. STN

Revision 1.0 01-10-2022, removed fluoride and sulfate from ingredients. STN

*Revision 2.0, 01-12-2020: Updated sections 1, 2 and 15 to meet Fanns new requirements
01/02/2024*

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flammable Liquids 2: Flammable liquids – Category 2

Acute Toxicity - Oral 3: Acute toxicity – Category 3

Acute Toxicity - Dermal 4: Acute toxicity – Category 4

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Damage 1: Serious eye damage/eye irritation – Category 1

Specific Target Organ Toxicity - Single Exposure 1: Specific target organ toxicity (single exposure) – Category 1

· *** Data compared to the previous version altered.**

US