

MATERIAL SAFETY DATA SHEET

MSDS No. EW990600
Issue Date: 2003/04/04

CODE: 999-06001

IDENTITY Autokit Micro Albumin

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Autokit Micro Albumin
 MANUFACTURER : Wako Pure Chemical Industries, Ltd.
 SUPPLIER : SUPPLIER(In JAPAN) : Wako Pure Chemical Industries, Ltd.
 ADDRESS : 1-2, Doshomachi 3-chome, Chuo-ku, Osaka, 540-8605, Japan
 TELEPHONE NUMBER & EMERGENCY TELEPHONE NUMBER: (06)6203-3741
 SUPPLIER(In U.S.A.) : Wako Chemicals USA, Inc.
 ADDRESS : 1600 Bellwood Road, Richmond, VA 23237, U.S.A.
 TELEPHONE NUMBER : (804)271-7677
 EMERGENCY TELEPHONE NUMBER : (800)424-9300 (CHEMTREC)
 SUPPLIER(In EUROPE) : Wako Chemicals GmbH, Germany
 ADDRESS : Nissanstrasse 2,D-41468 Neuss, GERMANY
 TELEPHONE NUMBER & EMERGENCY TELEPHONE NUMBER : (02131)311-0

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CONTENT
[1] Autokit Micro Albumin Buffer :	
Good's Buffer ;(1)	1.03%
Sodium Hydroxide ;(2)	< 0.14%
Sodium Chloride ;(3)	1.48%
Sodium Azide ;(4)	0.09%
[2] Autokit Micro Albumin Antibody :	
Anti-human Albumin from Goat Serum ;(5)	0.17%
Tris Buffer ;(6)	1.17%
Hydrochloric Acid ;(7)	< 0.90%
Sodium Chloride ;(3)	1.14%
Sodium Azide ;(4)	0.09%

SYNONYMS : (2); Caustic soda, Sodium hydrate, Lye, White caustic
 (3); Common salt; Salt
 (4); Smite, Azide, Azium
 (6); Tris(hydroxymethyl)aminomethane; Tris
 (7); Muriatic acid
 FORMULA : (2); NaOH
 (3); NaCl
 (4); NaN3
 (6); C4H11NO3
 (7); HCl
 MOLECULAR WEIGHT : (1),(5); Not available
 (2); 40.00
 (3); 58.44
 (4); 65.01
 (6); 121.14
 (7); 36.46
 CAS NUMBER : (1),(5); Not available
 (2); 1310-73-2
 (3); 7647-14-5
 (4); 26628-22-8
 (6); 77-86-1
 (7); 7647-01-0
 TSCA INVENTORY : (1),(5); Not listed
 (2)-(4),(6),(7); Listed
 EINECS No. : (2); 215-185-5
 (3); 231-598-3
 (4); 247-852-1
 (6); 201-064-4
 (7); 231-595-7
 (1),(5); Not listed

IDENTIFICATION OF DANGER ;
[1],[2]; SYMBOL : -----
R-phrases : -----

3. HAZARDS IDENTIFICATION

May be harmful if inhaled and ingested.
May cause eye and skin irritation.

(2); NFPA : HR= health-3, flam.-0, react.-1, HMIS : HR= health-3, flam.-0, react.-1

4. FIRST AID MEASURES

GENERAL ADVICE : Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.

INHALATION : [1],[2]; Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.
SKIN CONTACT : [1],[2]; Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persists, consult a physician.
EYE CONTACT : [1],[2]; Remove any contact lenses at once. Flush eyes well with flooding amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician.
INGESTION : [1],[2]; Rinse mouth, give plenty of water to dilute the substance. Never give anything by mouth to an unconscious person. Consult a physician.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA : Carbon dioxide, dry chemical powder, foam, water
FIRE & EXPLOSION HAZARDS : [1],[2]; Toxic, irritating fumes or smoke may be emitted.
SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS : Firemen should wear normal protective equipment(full bunker gear)and positive-pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes.
ENVIRONMENTAL PRECAUTIONS : Prevent spills from entering sewers, watercourses or low areas.
METHODS FOR CLEAN UP : [1],[2]; Do not touch spilled material without suitable protection(See section 8). Take up spilled material with ashes or other absorbents. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose of contaminated clothing. Sodium azide may react with copper or lead plumbing to form explosive compounds. Even though the reagents contain minute quantities of sodium azide, drains should be well flushed with large amount of water when discarding the reagents.

7. HANDLING AND STORAGE

Research use only.
HANDLING : Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Handle material with suitable protection.
STORAGE : Store away from sunlight in a cool(2-10 ° C= 35.6-50 ° F) well-ventilated dry place. Do not freeze. Keep container tightly closed.
INCOMPATIBLE PRODUCTS : Oxidizers

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES : Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.

VENTILATION : Local Exhaust ; Necessary, Mechanical(General) ; Recommended

CONTROL PARAMETER :

(2); OSHA Final Limits : TWA= 2mg/m3
ACGIH TLV(s) : Ceiling= 2mg/m3;
(4); OSHA Final Limits : None established
ACGIH TLV(s) : Ceiling= 0.29mg/m3
(7); OSHA Final Limits : Ceiling= 5 ppm, 7 mg/m3
ACGIH TLV(s) : Ceiling= 5 ppm, 7.5 mg/m3
(1),(3),(5),(6); OSHA Final Limits : None established
ACGIH TLV(s) : None established

PERSONAL PROTECTION :

Respiratory protection : NIOSH/MSHA approved respirator
Hand protection : Chemical resistant gloves
Eye protection : Safety glasses(goggles)
Skin protection : Protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : [1],[2]; Colorless clear liquid
ODOR : [1],[2]; Not available
pH : [1],[2]; Not available
BOILING POINT : [1],[2]; Not available
MELTING POINT : [1],[2]; Not available
FLASH POINT : [1],[2]; Not available
FLAMMABILITY (solid, gas) : [1],[2]; Not available
DECOMPOSITION TEMPERATURE : [1],[2]; Not available
EXPLOSIVE LIMITS : [1],[2]; Not available
VAPOR PRESSURE : [1],[2]; Not available
SPECIFIC GRAVITY : [1],[2]; Not available
SOLUBILITY IN :
WATER : [1],[2]; Miscible
log Po/w : [1],[2]; Not available

10. STABILITY AND REACTIVITY

CONDITION TO AVOID : Sunlight, heat
INCOMPATIBILITY(MATERIAL TO AVOID) : Oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS : Carbon monoxide, nitrogen oxides, sulfur oxides, chlorine compounds and sodium compounds may be formed.
HAZARDOUS POLYMERIZATION : Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA : Not available as the mixture
(2); LD50(ipr,mouse): 40mg/kg(COREAF 257,791,1963)
LDLo(oral,rabbit): 500mg/kg(AEPPAE 184,587,1937)
(3); LCLo(oral,man): 1gm/kg(MACPAJ 65,1587,1990)
LD50(oral,rat): 3gm/kg(TXAPA9 20,57,1971)
(4); LD50(oral,rat): 27mg/kg(FMCHA2 -,C32,1991)
TDLo(oral,man): 129?g/kg(YAKUD5 40,1407,1998)
LC50(ihl,rat): 37mg/m3(STGNBT -,173,1999)
LD50(skin,rabbit): 20mg/kg(FMCHA2 -,C32,1991)
(6); LD50(oral,rat): 5900mg/kg(BCFAAI 110,653,1971)
LDLo(oral,rabbit): 1000mg/kg(JIHTAB 22,315,1940)
LD50(ivn,mouse): 1210mg/kg(ABMGAJ 17,217,1966)
(7); LC50(ihl,mouse): 1108ppm/1H(JCTODH 3,61,1976)
LD50(oral,rabbit): 900mg/kg(BIZEA2 134,437,1923)
LDLo(oral,woman): 420?L/kg(JJTOEX 9,351,1996)
LCLo(ihl,human): 1300ppm/30M(29ZWAE -,207,1968)

IRRITATION DATA : Not available as the mixture
(2); Eye; rabbit; 50?g/24H; Severe(28ZPAK -,7,1972)
Skin; rabbit; 500mg/24H; Severe(28ZPAK -,7,1972)
(7); Eye; rabbit; 5mg/30S; Mild(TXCYAC 23,281,1982)

MUTATION DATA : Not available as the mixture
(2); Cytogenetic analysis; hamster; ovary; 16mmol/L(MUREAV 225,55,1989)
(3); Micronucleus test; hamster; lung; 4gm/L(MUREAV 272,223,1992)
(4); Mutation in microorganisms; S typhimurium; 30?g/plate(ENMUDM 9(Suppl 9),1,1987)
(7); Cytogenetic analysis; hamster; ovary; 8mmol/L(MUREAV 225,55,1989)

REPRODUCTIVE EFFECTS DATA : Not available as the mixture
(3); TDLo(oral,rat): 56400mg/kg(5 D pre-21 D post)(AJPHAP 264,R296,1993)
(7); TCLo(ihl,rat): 450mg/m3/1H(1D pre)(AKGIAO 53(6),69,1977)

TUMORIGENIC DATA : Not available as the mixture
(4); TDLo(oral,rat): 2730gm/kg/78W-C(JJIND8 67,75,1981)

ADDITIONAL INFORMATION :
NTP : Not listed
IARC : (7); Not Classifiable as to Carcinogenicity to Humans(Group 3)
OSHA : Not listed
ACGIH : (4); Not Classifiable as a Human Carcinogen (A4)
(2); EPA GENETOX PROGRAM 1988, Negative: Cell transform.-SA7/SHE
(3); EPA GENETOX PROGRAM 1988, Inconclusive: Mammalian micronucleus
(4); EPA GENETOX PROGRAM 1988, Positive : S cerevisiae gene conversion
(7); EPA GENETOX PROGRAM 1986, Negative; Cell transform.-SA7/SHE

12. ECOLOGICAL INFORMATION

BIODEGRADABILITY : Not available
BIOACCUMULATION POTENTIAL : Not available
AQUATIC TOXICITY : (2); TLm; mosquito fish: 125ppm/96hr(fresh water)
TLm; bluegill: 99mg/48hr (tap water)
(7); LC50(starfish): 100 to 330 ppm(as Hydrogen chloride)

OTHER INFORMATION : (2); WGK; 1
(3); WGK; 1
(4); WGK; 2
(7); WGK; 1

13. DISPOSAL CONSIDERATION

[1],[2]; Sodium azide may react with copper or lead plumbing to form explosive compounds. Even though the reagents contain minute quantities of sodium azide, drains should be well flushed with large amount of water when discarding the reagents. Incinerate and dispose of waste in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations(contact country, local or state environmental agency for specific rules).

(4); USEPA(RCRA) hazardous waste No. : P105

14. TRANSPORT INFORMATION

[1],[2]; IATA : Not Restricted as the mixture.
DOT(Department of Transportation) : Not a Hazardous Material for DOT shipping as the mixture.

15. REGULATORY INFORMATION

US REGULATIONS :

- (1),(5); EPA : CERCLA RQ= Not listed
EPCRA TPQ= Not listed
OSHA : TQ= Not listed
- (2); CWA/311 Haz., NIOSH Recommend. Subst., CERCLA Haz. Subst., DOT Haz. Mat., DOT Haz. Sub. and Rep. Quant., Mass. Subst. List , New Jers. RTK Haz. Subst. List , Penn. Haz. Subst. List , Canad. WHMIS IDL 1% conc.
EPA : CERCLA RQ= 1000lb
EPCRA TPQ= Not listed
OSHA : TQ= Not listed
- (3); EPA : CERCLA RQ= Not listed
EPCRA TPQ= Not listed
FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
OSHA : TQ= Not listed
- (4); TSCA CHIPs., NIOSH Recommend. Subst., RCRA Haz., CERCLA Haz. Subst., SARA III/302 Extre. Haz. Subst., SARA III/313 Tox. Chem., NTP Test. Prog., DOT Haz. Mat., DOT Haz. Sub. and Rep. Quant., Mass. Subst. List , New Jers. RTK Haz. Subst. List , Penn. Haz. Subst. List , Canad. WHMIS IDL 1% conc.
EPA : CERCLA RQ= 1000 lb
SARA RQ= 1000 lb
EPCRA TPQ=500 lb
EPCRA SECTION 313 de minimis concentration is 1.0%.
OSHA : TQ= Not listed
- (6); EPA : CERCLA RQ= Not listed
EPCRA TPQ= Not listed
OSHA : TQ= Not listed
- (7); CAA/112 1990 Amend., CAA/122(r) Acci. Release Pre. Subst., CERCLA Haz. Subst., DOT Haz. Mat., DOT Haz. Sub. and Rep. Quant., Mass. Subst. List , New Jers. RTK Haz. Subst. List , Penn. Haz. Subst. List
EPA : CERCLA RQ= 5000 lb
EPCRA TPQ= Not listed
OSHA : TQ= Not listed
- TSCA : Use of this product must be restricted to research or analysis for the development of a product in accordance with the Act.

EU REGULATIONS ;

[1],[2]; SYMBOL : -----
R-phrases : -----
S-phrases : -----

EC index No. : (2); 011-002-00-6
(4); 011-004-00-7
(7); 017-002-00-2
(1),(3),(5),(6); Not listed

16. OTHER INFORMATION

No specific notes

The above information is believed to be correct to be the best of our knowledge and information but does not purport to be all inclusive and shall be used only as a guide. This product is intended to be used by expert persons having chemical knowledge and skill, at their own discretion and risk and Wako shall not be held liable for any damages resulting from handling or from contact with the above material.

MATERIAL SAFETY DATA SHEET

MSDS No. EW990610
Revised Date: 2003/04/02

CODE: 995-06101, 997-06301

IDENTITY Autokit Micro Albumin Calibrator Set

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Autokit Micro Albumin Calibrator Set
MANUFACTURER : Wako Pure Chemical Industries, Ltd.
SUPPLIER : SUPPLIER(In JAPAN) : Wako Pure Chemical Industries, Ltd.
ADDRESS : 1-2, Doshomachi 3-chome, Chuo-ku, Osaka, 540-8605, Japan
TELEPHONE NUMBER & EMERGENCY TELEPHONE NUMBER: (06)6203-3741

SUPPLIER(In U.S.A.) : Wako Chemicals USA, Inc.
ADDRESS : 1600 Bellwood Road, Richmond, VA 23237, U.S.A.
TELEPHONE NUMBER : (804)271-7677
EMERGENCY TELEPHONE NUMBER : (800)424-9300 (CHEMTREC)

SUPPLIER(In EUROPE) : Wako Chemicals GmbH, Germany
ADDRESS : Nissanstrasse 2,D-41468 Neuss, GERMANY
TELEPHONE NUMBER & EMERGENCY TELEPHONE NUMBER : (02131)311-0

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CONTENT
[1] Calibrator 1 :	
Human Serum Albumin ;(1)	0.005%
Sodium Chloride ;(2)	0.85%
Sodium Azide ;(3)	0.09%
[2] Calibrator 2 :	
Human Serum Albumin ;(1)	0.0025
Sodium Chloride ;(2)	0.85%
Sodium Azide ;(3)	0.09%
[3] Calibrator 3 :	
Human Serum Albumin ;(1)	0.01%
Sodium Chloride ;(2)	0.85%
Sodium Azide ;(3)	0.09%
[4] Calibrator 4 :	
Human Serum Albumin	0.03%
Sodium Chloride ;(2)	0.85%
Sodium Azide ;(3)	0.09%
[5] Calibrator 5 :	
Human Serum Albumin ;(1)	0.05%
Sodium Chloride ;(2)	0.85%
Sodium Azide ;(3)	0.09%

SYNONYMS : (2); Common salt; Salt
 (3); Smite, Azide, Azium
 FORMULA : (2); NaCl
 (3); NaN3
 MOLECULAR WEIGHT : (1); Not available
 (2); 58.44
 (3); 65.01
 CAS NUMBER : (1); Not available
 (1); 70024-90-7
 (2); 7647-14-5
 (3); 26628-22-8
 TSCA INVENTORY : (1)-(3); Listed
 EINECS No. : (1); 274-272-6
 (2); 231-598-3
 (3); 247-852-1
 IDENTIFICATION OF DANGER :
 [1]-[5]; SYMBOL : -----
 R-phrases : -----

3. HAZARDS IDENTIFICATION

May be harmful if inhaled and ingested.
 May cause eye and skin irritation.

4. FIRST AID MEASURES

GENERAL ADVICE : Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.

INHALATION : [1]-[5]; Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.

SKIN CONTACT : [1]-[5]; Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persists, consult a physician.

EYE CONTACT : [1]-[5]; Remove any contact lenses at once. Flush eyes well with flooding amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician.

INGESTION : [1]-[5]; Rinse mouth, give plenty of water to dilute the substance. Never give anything by mouth to an unconscious person. Consult a physician.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA : Carbon dioxide, dry chemical powder, foam, water

FIRE & EXPLOSION HAZARDS : [1]-[5]; Toxic, irritating fumes or smoke may be emitted.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS : Firemen should wear normal protective equipment (full bunker gear) and positive-pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes.
ENVIRONMENTAL PRECAUTIONS : Prevent spills from entering sewers, watercourses or low areas.
METHODS FOR CLEAN UP : [1]-[5]: Do not touch spilled material without suitable protection(See section 8). Take up spilled material with ashes or other absorbents. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose of contaminated clothing. Sodium azide may react with copper or lead plumbing to form explosive compounds. Even though the reagents contain minute quantities of sodium azide, drains should be well flushed with large amount of water when discarding the reagents.

7. HANDLING AND STORAGE

HANDLING : Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Handle material with suitable protection.
STORAGE : Store away from sunlight in a cool(2-10 ° C= 35.6-50 ° F) well-ventilated dry place. Do not freeze. Keep container tightly closed.
INCOMPATIBLE PRODUCTS : Oxidizers

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES : Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.
VENTILATION : Local Exhaust ; Necessary, Mechanical(General) ; Recommended
CONTROL PARAMETER :
(3); OSHA Final Limits : None established
ACGIH TLV(s) : Ceiling= 0.29mg/m³
(1),(2); OSHA Final Limits : None established
ACGIH TLV(s) : None established
PERSONAL PROTECTION ;
Respiratory protection : NIOSH/MSHA approved respirator
Hand protection : Chemical resistant gloves
Eye protection : Safety glasses(goggles)
Skin protection : Protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : [1]-[5]: Colorless clear liquid
ODOR : [1]-[5]: Not available
pH : [1]-[5]: Not available
BOILING POINT : [1]-[5]: Not available
MELTING POINT : [1]-[5]: Not available
FLASH POINT : [1]-[5]: Not available
FLAMMABILITY (solid, gas) : [1]-[5]: Not available
DECOMPOSITION TEMPERATURE : [1]-[5]: Not available
EXPLOSIVE LIMITS : [1]-[5]: Not available
VAPOR PRESSURE : [1]-[5]: Not available
SPECIFIC GRAVITY : [1]-[5]: Not available
SOLUBILITY IN ;
WATER : [1]-[5]: Miscible
log Po/w : [1]-[5]: Not available

10. STABILITY AND REACTIVITY

CONDITION TO AVOID : Sunlight, heat
INCOMPATIBILITY(MATERIAL TO AVOID) : Oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS : Carbon monoxide and nitrogen oxides may be formed.
HAZARDOUS POLYMERIZATION : Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA : Not available as the mixture
(2); LCLo(oral,man): 1gm/kg(MACPJ 65,1587,1990)
LD50(oral,rat): 3gm/kg(TXAPA9 20,57,1971)
(3); LD50(oral,rat): 27mg/kg(FMCHA2 -,C32,1991)
TDLo(oral,man): 129?g/kg(YAKUD5 40,1407,1998)
LC50(ihl,rat): 37mg/m³(STGNBT -,173,1999)
LD50(skin,rabbit): 20mg/kg(FMCHA2 -,C32,1991)
IRRITATION DATA : Not available as the mixture and components
MUTATION DATA : Not available as the mixture
(2); Micronucleus test; hamster; lung; 4gm/L(MUREAV 272,223,1992)
(3); Mutation in microorganisms; S.typhimurium; 30?g/plate(ENMUDM 9(Suppl 9),1,1987)
REPRODUCTIVE EFFECTS DATA : Not available as the mixture
(2); TDLo(oral,rat): 56400mg/kg(5 D pre-21 D post)(AJPHAP 264,R296,1993)
TUMORIGENIC DATA : Not available as the mixture
(3); TDLo(oral,rat): 2730gm/kg/78W-C(JJIND8 67,75,1981)
ADDITIONAL INFORMATION ;
NTP : Not listed
IARC : Not listed
OSHA : Not listed
ACGIH : (3); Not Classifiable as a Human Carcinogen (A4)
(2); EPA GENETOX PROGRAM 1988, Inconclusive: Mammalian micronucleus
(3); EPA GENETOX PROGRAM 1988, Positive : S cerevisiae gene conversion

12. ECOLOGICAL INFORMATION

BIODEGRADABILITY : Not available
BIOACCUMULATION POTENTIAL : Not available
AQUATIC TOXICITY : Not available
OTHER INFORMATION : (2); WGK; 1
(3); WGK;2

13. DISPOSAL CONSIDERATION

[1]-[5]; Sodium azide may react with copper or lead plumbing to form explosive compounds. Even though the reagents contain minute quantities of sodium azide, drains should be well flushed with large amount of water when discarding the reagents. Incinerate and dispose of waste in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations(contact country, local or state environmental agency for specific rules).

(3); USEPA(RCRA) hazardous waste No. : P105

14. TRANSPORT INFORMATION

IATA : Not Restricted as the mixture.
DOT(Department of Transportation) : Not a Hazardous Material for DOT shipping as the mixture.

15. REGULATORY INFORMATION

US REGULATIONS :

- (1); EPA : CERCLA RQ= Not listed
EPCRA TPQ= Not listed
OSHA : TQ= Not listed
- (2); EPA : CERCLA RQ= Not listed
EPCRA TPQ= Not listed
FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
OSHA : TQ= Not listed
- (3); TSCA CHiPs, NIOSH Recommend. Subst., RCRA Haz., CERCLA Haz. Subst., SARA III/302 Extre. Haz. Subst., SARA III/313 Tox. Chem., NTP Test. Prog., DOT Haz. Mat., DOT Haz. Sub. and Rep. Quant., Mass. Subst. List , New Jers. RTK Haz. Subst. List , Penn. Haz. Subst. List , Canad. WHMIS IDL 1% conc.
EPA : CERCLA RQ= 1000 lb
SARA RQ= 1000 lb
EPCRA TPQ=500 lb
EPCRA SECTION 313 de minimis concentration is 1.0%.
OSHA : TQ= Not listed

EU REGULATIONS :

- [1]-[5]; SYMBOL : -----
R-phrases : -----
S-phrases : -----
- EC index No. : (3); 011-004-00-7
(1),(2); Not listed

16. OTHER INFORMATION

No specific notes

The above information is believed to be correct to be the best of our knowledge and information but does not purport to be all inclusive and shall be used only as a guide. This product is intended to be used by expert persons having chemical knowledge and skill, at their own discretion and risk and Wako shall not be held liable for any damageresulting from handling or from contact with the above material.

MATERIAL SAFETY DATA SHEET

MSDS No. EW990620
Issue Date: 2003/04/02

CODE: 991-06201, 993-06401

IDENTITY Autokit Micro Albumin Control Set

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Autokit Micro Albumin Control Set
MANUFACTURER : Wako Pure Chemical Industries, Ltd.
SUPPLIER : SUPPLIER(In JAPAN) : Wako Pure Chemical Industries, Ltd.
ADDRESS : 1-2, Doshomachi 3-chome, Chuo-ku, Osaka, 540-8605, Japan
TELEPHONE NUMBER & EMERGENCY TELEPHONE NUMBER: (06)6203-3741

SUPPLIER(In U.S.A.) : Wako Chemicals USA, Inc.
ADDRESS : 1600 Bellwood Road, Richmond, VA 23237, U.S.A.
TELEPHONE NUMBER : (804)271-7677
EMERGENCY TELEPHONE NUMBER : (800)424-9300 (CHEMTREC)

SUPPLIER(In EUROPE) : Wako Chemicals GmbH, Germany
ADDRESS : Nissanstrasse 2,D-41468 Neuss, GERMANY
TELEPHONE NUMBER & EMERGENCY TELEPHONE NUMBER : (02131)311-0

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CONTENT
[1] Micro Albumin Control 1 : Human Serum Albumin ;(1) Sodium Chloride ;(2) Sodium Azide ;(3)	approx. 0.003% 0.85% 0.09%
[2] Micro Albumin Control 2 : Human Serum Albumin ;(1) Sodium Chloride ;(2) Sodium Azide ;(3)	approx. 0.009% 0.85% 0.09%
SYNONYMS : (2); Common salt; Salt (3); Smite, Azide, Azium	
FORMULA : (2); NaCl (3); NaN3	
MOLECULAR WEIGHT : (1); Not available (2); 58.44 (3); 65.01	
CAS NUMBER : (1); Not available (2); 70024-90-7 (3); 7647-14-5 (3); 26628-22-8	
TSCA INVENTORY : (1)-(3); Listed	
EINECS No. : (1); 274-272-6 (2); 231-598-3 (3); 247-852-1	
IDENTIFICATION OF DANGER : [1],[2]; SYMBOL : ----- R-phrases : -----	

3. HAZARDS IDENTIFICATION

May be harmful if inhaled and ingested.
May cause eye and skin irritation.

4. FIRST AID MEASURES

GENERAL ADVICE : Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.

INHALATION : [1],[2]; Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.
SKIN CONTACT : [1],[2]; Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persists, consult a physician.
EYE CONTACT : [1],[2]; Remove any contact lenses at once. Flush eyes well with flooding amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician.
INGESTION : [1],[2]; Rinse mouth, give plenty of water to dilute the substance. Never give anything by mouth to an unconscious person. Consult a physician.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA : Carbon dioxide, dry chemical powder, foam, water
FIRE & EXPLOSION HAZARDS : [1],[2]; Toxic, irritating fumes or smoke may be emitted.
SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS : Firemen should wear normal protective equipment(full bunker gear)and positive-pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes.
ENVIRONMENTAL PRECAUTIONS : Prevent spills from entering sewers, watercourses or low areas.
METHODS FOR CLEAN UP : [1],[2]; Do not touch spilled material without suitable protection(See section 8). Take up spilled material with ashes or other absorbents. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose of contaminated clothing. Sodium azide may react with copper or lead plumbing to form explosive compounds. Even though the reagents contain minute quantities of sodium azide, drains should be well flushed with large amount of water when discarding the reagents.

7. HANDLING AND STORAGE

Research use only.
HANDLING : Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Handle material with suitable protection.
STORAGE : Store away from sunlight in a cool(2-10 ° C= 35.6-50 ° F) well-ventilated dry place. Do not freeze. Keep container tightly closed.
INCOMPATIBLE PRODUCTS : Oxidizers

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES : Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.
VENTILATION : Local Exhaust ; Necessary, Mechanical(General) ; Recommended
CONTROL PARAMETER :
(3); OSHA Final Limits : None established
ACGIH TLV(s) : Ceiling= 0.29mg/m3
(1),(2); OSHA Final Limits : None established
ACGIH TLV(s) : None established
PERSONAL PROTECTION :
Respiratory protection : NIOSH/MSHA approved respirator
Hand protection : Chemical resistant gloves
Eye protection : Safety glasses(goggles)
Skin protection : Protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : [1],[2]; Colorless clear liquid
ODOR : [1],[2]; Odorless
pH : [1],[2]; Not available
BOILING POINT : [1],[2]; Not available
MELTING POINT : [1],[2]; Not available
FLASH POINT : [1],[2]; Not available
FLAMMABILITY (solid, gas) : [1],[2]; Not available
DECOMPOSITION TEMPERATURE : [1],[2]; Not available
EXPLOSIVE LIMITS : [1],[2]; Not available
VAPOR PRESSURE : [1],[2]; Not available
SPECIFIC GRAVITY : [1],[2]; Not available
SOLUBILITY IN :
WATER : [1],[2]; Miscible
log Po/w : [1],[2]; Not available

10. STABILITY AND REACTIVITY

CONDITION TO AVOID : Sunlight, heat
INCOMPATIBILITY(MATERIAL TO AVOID) : Oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS : Carbon monoxide and nitrogen oxides may be formed.
HAZARDOUS POLYMERIZATION : Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA : Not available as the mixture
(2); LCLo(oral,man): 1gm/kg(MACPAJ 65,1587,1990)
LD50(oral,rat): 3gm/kg(TXAPA9 20,57,1971)
(3); LD50(oral,rat): 27mg/kg(FMCHA2 -,C32,1991)
TDLo(oral,man): 129?g/kg(YAKUD5 40,1407,1998)
LC50(ihl,rat): 37mg/m3(STGNBT -,173,1999)
LD50(skin,rabbit): 20mg/kg(FMCHA2 -,C32,1991)
IRRITATION DATA : Not available as the mixture and components
MUTATION DATA : Not available as the mixture
(2); Micronucleus test; hamster; lung; 4gm/L(MUREAV 272,223,1992)
(3); Mutation in microorganisms; S.typhimurium; 30?g/plate(ENMUDM 9(Suppl 9),1,1987)
REPRODUCTIVE EFFECTS DATA : Not available as the mixture
(2); TDLo(oral,rat): 56400mg/kg(5 D pre-21 D post)(AJPHAP 264,R296,1993)
TUMORIGENIC DATA : Not available as the mixture
(3); TDLo(oral,rat): 2730gm/kg/78W-C(JJIND8 67,75,1981)

ADDITIONAL INFORMATION :

NTP : Not listed
IARC : Not listed
OSHA : Not listed
ACGIH : (3); Not Classifiable as a Human Carcinogen (A4)
(2); EPA GENETOX PROGRAM 1988, Inconclusive: Mammalian micronucleus
(3); EPA GENETOX PROGRAM 1988, Positive : S cerevisiae gene conversion

12. ECOLOGICAL INFORMATION

BIODEGRADABILITY : Not available
BIOACCUMULATION POTENTIAL : Not available
AQUATIC TOXICITY : Not available
OTHER INFORMATION : (2); WGK; 1
(3); WGK;2

13. DISPOSAL CONSIDERATION

[1],[2]; Sodium azide may react with copper or lead plumbing to form explosive compounds. Even though the reagents contain minute quantities of sodium azide, drains should be well flushed with large amount of water when discarding the reagents. Incinerate and dispose of waste in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations(contact country, local or state environmental agency for specific rules).

(3); USEPA(RCRA) hazardous waste No. : P105

14. TRANSPORT INFORMATION

IATA : Not Restricted as the mixture.
DOT(Department of Transportation) : Not a Hazardous Material for DOT shipping as the mixture.

15. REGULATORY INFORMATION

US REGULATIONS :

(1); EPA : CERCLA RQ= Not listed
EPCRA TPQ= Not listed
OSHA : TQ= Not listed
(2); EPA : CERCLA RQ= Not listed
EPCRA TPQ= Not listed
FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
OSHA : TQ= Not listed
(3); TSCA CHiPs, NIOSH Recommend. Subst., RCRA Haz., CERCLA Haz. Subst., SARA III/302 Extre. Haz. Subst., SARA III/313 Tox. Chem., NTP Test. Prog., DOT Haz. Mat., DOT Haz. Sub. and Rep. Quant., Mass. Subst. List , New Jers. RTK Haz. Subst. List , Penn. Haz. Subst. List , Canad. WHMIS IDL 1% conc.
EPA : CERCLA RQ= 1000 lb
SARA RQ= 1000 lb
EPCRA TPQ=500 lb
EPCRA SECTION 313 de minimis concentration is 1.0%.
OSHA : TQ= Not listed

EU REGULATIONS :

[1],[2]; SYMBOL : ----
R-phrases : ----
S-phrases : ----
EC index No. : (3); 011-004-00-7
(1),(2); Not listed

16. OTHER INFORMATION

No specific notes

The above information is believed to be correct to be the best of our knowledge and information but does not purport to be all inclusive and shall be used only as a guide. This product is intended to be used by expert persons having chemical knowledge and skill, at their own discretion and risk and Wako shall not be held liable for any damages resulting from handling or from contact with the above material.