

**KitchenPro AziDes****Section: 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Product name : KitchenPro AziDes

Product code : 115970E

Use of the Substance/Mixture : Cleaner and disinfectant

Substance type: : Mixture

For professional users only.

Product dilution information : 1.0 % - 10.0 %

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

Identified uses : Surface disinfectant. Spray and rinse manual process
Floor cleaner. Manual process
Kitchen cleaner. Spray and wipe manual process

Recommended restrictions on use : Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company : Ecolab Ltd.
PO Box 11; Winnington Avenue
Northwich, Cheshire, United Kingdom CW8 4DX
+ 44 (0)1606 74488
ccs@ecolab.com

1.4 Emergency telephone number

Emergency telephone number : Food & Beverage, Institutional, Agriculture, Textile Hygiene:
Northwich: +44 (0)1606 74488
Healthcare:
Leeds: +44 (0)113 232 2480
Swansea: +44 (0)1252 717616

Poison Information Centre telephone number : Not Available

Date of Compilation/Revision : 08.04.2014
Version : 1.1

Section: 2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

Classification (REGULATION (EC) No 1272/2008)

Product AS SOLD

Skin corrosion , Category 1A

H314

KitchenPro AziDes

Product AT USE DILUTION

Not a hazardous substance or mixture.

Classification (67/548/EEC, 1999/45/EC)

Product AS SOLD

C; CORROSIVE

R35

Product AT USE DILUTION

The product does not need to be labelled in accordance with EC directives or respective national laws.

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Product AS SOLD

Hazard pictograms

:



Signal Word

: Danger

Hazard Statements

: H314

Causes severe skin burns and eye damage.

Precautionary Statements

: **Prevention:**

P280

Wear protective gloves/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/ physician.

Hazardous components which must be listed on the label:

L-(+)-lactic acid

Benzalkonium chloride

Fattyalcohol ethoxylates > 5EO

Product AT USE DILUTION

Not a hazardous substance or mixture.

2.3 Other hazards

Product AS SOLD

None known.

KitchenPro AziDes**Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS****3.2 Mixtures****Product AS SOLD****Hazardous components**

Chemical Name	CAS-No. EC-No. REACH No.	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration: [%]
L-(+)-lactic acid	79-33-4 201-196-2 01-2119474164-39	Xi; R38-R41	Skin irritationCategory 2; H315 Serious eye damage/eye irritationCategory 1; H318	>= 5 - < 10
benzalkonium chloride	68424-85-1 270-325-2	Xn; R22 C; R34 Xi; R41 N; R50	Acute toxicityCategory 4; H302 Skin corrosionCategory 1B; H314 Serious eye damage/eye irritationCategory 1; H318 Acute aquatic toxicityCategory 1; H400	>= 2.5 - < 3
Urea	57-13-6 200-315-5 01-2119463277-33	Xi; R36	Eye irritationCategory 2; H319	>= 1 - < 2.5
Fattyalcohol ethoxylates > 5EO	69227-22-1	Xn-Xi; R20- R38-R41	Acute toxicityCategory 4; H332 Skin irritationCategory 2; H315 Serious eye damage/eye irritationCategory 1; H318	>= 1 - < 2.5

Product AT USE DILUTION**Hazardous components**

Chemical Name	CAS-No. EC-No. REACH No.	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration: [%]
benzalkonium chloride	68424-85-1 270-325-2	Xn; R22 C; R34 Xi; R41 N; R50	Acute toxicityCategory 4; H302 Skin corrosionCategory 1B; H314 Serious eye damage/eye irritationCategory 1; H318 Acute aquatic toxicityCategory 1; H400	>= 0.25 - < 0.5

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section: 4. FIRST AID MEASURES**4.1 Description of first aid measures****Product AS SOLD**

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for

KitchenPro AziDes

at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

- In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
- If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Product AT USE DILUTION

- In case of eye contact : Rinse with plenty of water.
- In case of skin contact : Rinse with plenty of water.
- If swallowed : Rinse mouth. Get medical attention if symptoms occur.
- If inhaled : Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

Section: 5. FIREFIGHTING MEASURES

Product AS SOLD

5.1 Extinguishing media

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting. : Not flammable or combustible.
- Hazardous combustion products : Carbon oxides

5.3 Advice for firefighters

- Special protective equipment for firefighters : Use personal protective equipment
- Further information : Collect contaminated fire extinguishing water separately. This

KitchenPro AziDes

must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Product AS SOLD

Advice for non-emergency personnel : Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Advice for emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

Product AT USE DILUTION

Advice for non-emergency personnel : Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Advice for emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

6.2 Environmental precautions

Product AS SOLD

Environmental precautions : Do not allow contact with soil, surface or ground water.

Product AT USE DILUTION

Environmental precautions : Do not allow contact with soil, surface or ground water.

6.3 Methods and materials for containment and cleaning up

Product AS SOLD

Methods for cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Product AT USE DILUTION

Methods for cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

6.4 Reference to other sections

KitchenPro AziDes

See Section 1 for emergency contact information.
For personal protection see section 8.
See Section 13 for additional waste treatment information.

Section: 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Product AS SOLD

Advice on safe handling : Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Product AT USE DILUTION

Advice on safe handling : Wash hands thoroughly after handling. Use only with adequate ventilation.

Hygiene measures : Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Product AS SOLD

Requirements for storage areas and containers : Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Storage temperature : -5 °C to 40 °C

Product AT USE DILUTION

Requirements for storage areas and containers : Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

7.3 Specific end uses

Product AS SOLD

Specific use(s) : Surface disinfectant. Spray and rinse manual process
Floor cleaner. Manual process
Kitchen cleaner. Spray and wipe manual process

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Product AS SOLD

Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Product AS SOLD

Appropriate engineering controls

KitchenPro AziDes

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Individual protection measures

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Eye/face protection (EN 166) : Safety goggles
Face-shield

Hand protection (EN 374) : Wear the following personal protective equipment:
Nitrile rubber
butyl-rubber
Impervious gloves
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin and body protection (EN 14605) : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection (EN 143, 14387) : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Product AT USE DILUTION

Appropriate engineering controls

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands before breaks and immediately after handling the product.

Eye/face protection (EN 166) : No special protective equipment required.

Hand protection (EN 374) : No special protective equipment required.

Skin and body protection (EN 14605) : No special protective equipment required.

Respiratory protection (EN 143, 14387) : No personal respiratory protective equipment normally required.

Environmental exposure controls

General advice : Consider the provision of containment around storage vessels.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Product AS SOLD

Product AT USE DILUTION

KitchenPro AziDes

Appearance	: liquid	liquid
Colour	: clear, light yellow	Colourless
Odour	: slight	very faint
pH	: 1.3 - 2.3, 100 %	2.6 - 3.6
Flash point	: closed cup	Not applicable.
Odour Threshold	: no data available	
Melting point/freezing point	: no data available	
Initial boiling point and boiling range	: no data available	
Evaporation rate	: no data available	
Flammability (solid, gas)	: no data available	
Upper explosion limit	: no data available	
Lower explosion limit	: no data available	
Vapour pressure	: no data available	
Relative vapour density	: no data available	
Relative density	: 1.017 - 1.027	
Water solubility	: soluble	
Solubility in other solvents	: no data available	
Partition coefficient: n-octanol/water	: no data available	
Auto-ignition temperature	: no data available	
Thermal decomposition	: no data available	
Viscosity, kinematic	: no data available	
Explosive properties	: no data available	
Oxidizing properties	: The substance or mixture is not classified as oxidizing.	

9.2 Other information

no data available

Section: 10. STABILITY AND REACTIVITY

Product AS SOLD

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

None known.

KitchenPro AziDes

10.5 Incompatible materials

Bases

10.6 Hazardous decomposition products

Carbon oxides

Section: 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Product AS SOLD

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

Toxicity

Acute oral toxicity	: Acute toxicity estimate : > 2,000 mg/kg
Acute inhalation toxicity	: 4 h Acute toxicity estimate : > 20 mg/l
Acute dermal toxicity	: There is no data available for this product.
Skin corrosion/irritation	: There is no data available for this product.
Serious eye damage/eye irritation	: There is no data available for this product.
Respiratory or skin sensitization	: There is no data available for this product.
Carcinogenicity	: There is no data available for this product.
Reproductive effects	: There is no data available for this product.
Germ cell mutagenicity	: There is no data available for this product.
Teratogenicity	: There is no data available for this product.
STOT - single exposure	: There is no data available for this product.
STOT - repeated exposure	: There is no data available for this product.
Aspiration toxicity	: There is no data available for this product.

Components

Acute oral toxicity	: L-(+)-lactic acid LD50 rat: 3,543 mg/kg
	benzalkonium chloride LD50 rat: 344 mg/kg
	Urea LD50 rat: 8,471 mg/kg

KitchenPro AziDes

	Fattyalcohol ethoxylates > 5EO LD50 rat: > 2,000 mg/kg
Acute inhalation toxicity	: L-(+)-lactic acid 4 h LC50 rat: > 7.94 mg/l
	Urea 4 h LC50 rat: > 2.71 mg/l
	Fattyalcohol ethoxylates > 5EO 4 h LC50 rat: 3.5 mg/l
Acute dermal toxicity	: L-(+)-lactic acid LD50 rabbit: > 2,000 mg/kg
	benzalkonium chloride LD50 rabbit: 3,340 mg/kg
	Urea LD50 rat: 8,200 mg/kg
	Fattyalcohol ethoxylates > 5EO LD50 rabbit: > 2,000 mg/kg

Potential Health Effects**Product AS SOLD**

Eyes	: Causes serious eye damage.
Skin	: Causes severe skin burns.
Ingestion	: Causes digestive tract burns.
Inhalation	: May cause nose, throat, and lung irritation.
Chronic Exposure	: May cause genetic defects.

Product AT USE DILUTION

Eyes	: Health injuries are not known or expected under normal use.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Experience with human exposure**Product AS SOLD**

Eye contact	: Redness, Pain, Corrosion
Skin contact	: Redness, Pain, Corrosion
Ingestion	: Corrosion, Abdominal pain
Inhalation	: Respiratory irritation, Cough

Product AT USE DILUTION

KitchenPro AziDes

Eye contact	: No symptoms known or expected
Skin contact	: No symptoms known or expected
Ingestion	: No symptoms known or expected
Inhalation	: No symptoms known or expected

Section: 12. ECOLOGICAL INFORMATION

Product AS SOLD

12.1 Ecotoxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

Toxicity to fish : no data available

Toxicity to daphnia and other aquatic invertebrates. : no data available

Toxicity to algae : no data available

Components

Toxicity to fish : L-(+)-lactic acid
96 h LC50 Fish : 130 mg/l

benzalkonium chloride
96 h LC50 Fish : 0.515 mg/l

Urea
96 h LC50 Fish : 127.9 mg/l

Fattyalcohol ethoxylates > 5EO
96 h LC50 Fish : 5 mg/l

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

Product

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

KitchenPro AziDes

12.6 Other adverse effects

no data available

Section: 13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with the European Directives on waste and hazardous waste. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

13.1 Waste treatment methods

Product AS SOLD

Product : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

European Waste Catalogue : 200114* - acids

Product AT USE DILUTION

Product : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

Product AS SOLD

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (ADR/ADN/RID)

14.1 UN number : Not dangerous goods
14.2 UN proper shipping name : Not dangerous goods
14.3 Transport hazard class(es) : Not dangerous goods
14.4 Packing group : Not dangerous goods
14.5 Environmental hazards : Not dangerous goods
14.6 Special precautions for user : Not dangerous goods

Air transport (IATA)

14.1 UN number : Not dangerous goods

KitchenPro AziDes

14.2 UN proper shipping name : Not dangerous goods
14.3 Transport hazard class(es) : Not dangerous goods
14.4 Packing group : Not dangerous goods
14.5 Environmental hazards : Not dangerous goods
14.6 Special precautions for user : Not dangerous goods

Sea Transport (IMDG/IMO)

14.1 UN number : Not dangerous goods
14.2 UN proper shipping name : Not dangerous goods
14.3 Transport hazard class(es) : Not dangerous goods
14.4 Packing group : Not dangerous goods
14.5 Environmental hazards : Not dangerous goods
14.6 Special precautions for user : Not dangerous goods
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not dangerous goods

Product AT USE DILUTION

Not intended for transport.

Section: 15. REGULATORY INFORMATION

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

according to Detergents Regulation EC 648/2004 : less than 5 %: Cationic surfactants, Non-ionic surfactants
Preservation agents:
L-(+)-lactic acid

National Regulations

Take note of Dir 94/33/EC on the protection of young people at work.

Other regulations : The Chemicals (Hazard Information and Packaging for Supply) Regulations.
The Control of Substances Hazardous to Health Regulations.
Health and Safety at Work Act.

15.2 Chemical Safety Assessment

This product contains substances for which Chemical Safety Assessments are still required.

Section: 16. OTHER INFORMATION

Full text of R-Phrases

R20 Harmful by inhalation.
R22 Harmful if swallowed.
R34 Causes burns.
R36 Irritating to eyes.

KitchenPro AziDes

R38 Irritating to skin.
 R41 Risk of serious damage to eyes.
 R50 Very toxic to aquatic organisms.

Full text of H-Statements

H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H400 Very toxic to aquatic life.

Full text of other abbreviations

Prepared by : Regulatory Affairs

Numbers quoted in the MSDS are given in the format: 1,000,000 = 1 million and 1,000 = 1 thousand. 0.1 = 1 tenth and 0.001 = 1 thousandth

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this 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.

ANNEX: EXPOSURE SCENARIOS**DPD+ Substances:**

The following substances are the lead substances that contribute to the mixture Exposure Scenario according to the DPD+ Rule:

Route	Substance	CAS-No.	EINECS-No.
Ingestion	benzalkonium chloride	68424-85-1	270-325-2
Inhalation	Fattyalcohol ethoxylates > 5EO	69227-22-1	
Dermal	benzalkonium chloride	68424-85-1	270-325-2
Eyes	L-(+)-lactic acid	79-33-4	201-196-2
aquatic environment	benzalkonium chloride	68424-85-1	270-325-2

Physical properties DPD+ Substances:

Substance	Vapour pressure	Water solubility	POW	Molar Mass
benzalkonium chloride	< 0.0000001 hPa	403 g/l		
L-(+)-lactic acid	0.0041 hPa		0.25	

KitchenPro AziDes

To calculate if your downstream Operating Conditions and Risk management Measures are safe, please calculate your risk factor at the website below:

www.ecetoc.org/tra

Short title of Exposure Scenario : Kitchen cleaner. Spray and wipe manual process

Use descriptors

Main User Groups : Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Sectors of end-use : **SU22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Process categories : **PROC10:** Roller application or brushing
PROC11: Non industrial spraying
PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Product categories : **PC35:** Washing and cleaning products (including solvent based products)

Environmental Release Categories : **ERC8a:** Wide dispersive indoor use of processing aids in open systems

Short title of Exposure Scenario : Surface disinfectant. Spray and rinse manual process

Use descriptors

Main User Groups : Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Sectors of end-use : **SU22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Process categories : **PROC10:** Roller application or brushing
PROC11: Non industrial spraying
PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Product categories : **PC35:** Washing and cleaning products (including solvent based products)

Environmental Release Categories : **ERC8a:** Wide dispersive indoor use of processing aids in open systems

KitchenPro AziDes

Short title of Exposure Scenario : **Floor cleaner. Manual process**

Use descriptors

Main User Groups : Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Sectors of end-use : **SU22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Process categories : **PROC10:** Roller application or brushing
PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Product categories : **PC35:** Washing and cleaning products (including solvent based products)

Environmental Release Categories : **ERC8a:** Wide dispersive indoor use of processing aids in open systems