AsahiKASEI

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Cover Sheet for Asahi Integrity Test Solutions Kit Safety Data Sheet

The Asahi Integrity Test Solutions Kit is solely for use in the post-use gold particle test (GPT) of Planova™ filters. This *Safety Data Sheet* for the United States (OSHA HCS[1]) and the European Union (EU CLP[2]) covers the following components of the Asahi Integrity Test Solution Kit:

- Asahi Integrity Test Solution (Concentrated)
- SDS (Sodium Lauryl Sulfate)

Hazard identification

Class	OSHA HCS[1] and EU CLP[2] Classifications			Information for EU CLP[2]
	Category	Pictogram	Signal word	H code
Asahi Integrity Test Solution (Concentrated)				
Skin corrosion/irritation	Not classified			
Serious eye damage/eye irritation	Not classified			
SDS (Sodium Lauryl Sulfate)				
Acute toxicity(oral)	4		Danger	H302
Acute toxicity(dermal)	3			H311
Skin corrosion/irritation	2			H315
Eye damage/irritation	1			H318
Specific target organ toxicity single exposure	3 (respiratory tract irritation)			H335
Specific target organ toxicity repeated or prolonged exposure	2 (liver)			H373
Hazardous to the aquatic environment (acute)	1			H400

Hazard statements

H code	Hazard statement
H302	Harmful if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H373	May cause damage to liver through prolonged or repeated exposure
H400	Very toxic to aquatic life

Precautionary statements for SDS (Sodium Lauryl Sulfate) for EU CLP[2]

P260: Do not breathe dust/mist/vapors/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
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/doctor.
P337+P313: If eye irritation persists: Get medical advice/attention.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.

[1]OSHA HCS: 29 CFR Part 1910, Federal Register, Vol. 77, No. 58, March 26, 2012
[2]EU CLP: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008

Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product/chemical name: Asahi Integrity Test Solution (Concentrated)
Synonyms: AGP-HA15, AGP-HA20 and AGP-HA35
Product description: Colloidal gold particle solution
Product code: AGP-HA15M, AGP-HA15S, AGP-HA20M, AGP-HA20S AGP-HA35M, AGP-HA35S

1.2. Relevant uses of product: Solely for the post-use GPT of Planova™ filters

1.3.Contact information of Manufacturer/Supplier:

Name of manufacturer:

Asahi Kasei Medical Co., Ltd.
Bioprocess Division
1-1-2 Yurakucho, Chiyoda-ku, Tokyo 100-0006 JAPAN
Tel: +81-3-6699-3782; Fax: +81-3-6699-3784
Email address: info.jp@ak-bio.com

Name of supplier (importer) in the EU:

N.V. Asahi Kasei Bioprocess Europe S.A.
Rue Colonel Bourg, 122, 1140 Brussels, Belgium
Tel: +32-2-526-0500; Fax: +32-2-526-0510
Email address: info.eu@ak-bio.com

Name of supplier (importer) in the US:

Asahi Kasei Bioprocess America, Inc.
1855 Elmdale Avenue, Glenview, IL 60026 USA
Tel: +1-847-556-9700; Fax: +1-847-556-9701
Email address: info.us@ak-bio.com

1.4. Emergency telephone number

In case of emergency, call the local poison control center.

Section 2: Hazard identification

2.1. Classification of the mixture

Classification according to OSHA HCS and EU CLP: Not classified

2.2. Label elements:

In accordance with OSHA HCS and EU CLP: Not applicable

2.3. Other hazards:

In accordance with OSHA HCS: No information
In accordance with EU CLP: The solution does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Section 3: Composition/information on ingredients

3.1. Mixtures

Product/chemical name: Asahi Integrity Test Solution (Concentrated)

Information on ingredients:

Chemical name	Content (wt %)	CAS No.	EC No.
Sodium lauryl sulfate	≤0.5	151-21-3	205-788-1
Gold	≤0.05	7440-57-5	231-165-9
Sodium citrate	≤0.2	6132-04-3	200-675-3
Polyvinylpyrrolidone	≤3	9003-39-8	-
Chloride ion	≤0.05	-	-
Water	≥96.2	7732-18-5	231-791-2

Classification of ingredients contributing to EU CLP hazards classifications*:
Sodium lauryl sulfate: Acute toxicity (oral), 4, H302; Acute toxicity (dermal), 3, H311; Skin corrosion/irritation, 2, H315; Eye damage/irritation, 1, H318; Specific target organ toxicity (single exposure), 3 (respiratory tract), H335; Specific target organ toxicity (repeated exposure), 2 (liver), H373; Aquatic acute, 1, H400
*Full text of hazard statements is given in Section 16 of this *Safety Data Sheet*.

Section 4: First-aid measures

4.1. Description of first aid measures
IF INHALED: Remove victim to fresh air and keep warm and at rest in a position comfortable for breathing. Seek medical attention if in a critical condition.
IF ON SKIN: Remove contaminated clothing including shoes and immediately wash affected area with plenty of water. Get immediate medical attention. Wash contaminated clothing and shoes before reuse or dispose to waste.
IF IN EYES: Immediately flush eyes with plenty of water for two to three minutes. Remove any contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Seek immediate medical attention.
IF SWALLOWED: Wash out mouth with water. Do not induce vomiting unless instructed by medical personnel. Seek immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed
Acute effects: May cause eye irritation
Delayed effects: No information

4.3. Indication of any immediate medical attention and special treatment needed
Show this *Safety Data Sheet* to medical personnel. Give symptomatic treatment and supportive therapy.

Section 5: Fire-fighting measures

5.1. Extinguishing media
Suitable extinguishing media: Water spray, dry chemical powder, foam, carbon dioxide, or sand
Unsuitable extinguishing media: Direct discharge of water jet

5.2. Specific hazards arising from the substance or mixture
If involved in a fire, this product may emit hazardous decomposition and combustion fumes (e.g., sulfur oxides, nitrogen oxides, carbon monoxide, carbon dioxide, and chlorine derivatives).

5.3. Advice for firefighters
Firefighters should use full protective gear for surrounding fire.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel:

Evacuate, except for responsible personnel.
In case of emergency, contact local authorities and responsible personnel.

For emergency responders:

Wear appropriate personal protective equipment described in Section 8 (exposure control) to prevent inhalation and contact with eyes and skin.

6.2. Environmental precautions

Prevent leakage of product into waterways or drainage systems by diking with sand or other absorbent material.
Contact authorities, water and waste-water treatment plants as appropriate if significant contamination occurs.

6.3. Methods and materials for containment and cleaning up

Absorb the spill promptly with towels, and clean area with water.
In the event that the product dries, clean it up with water; however, coloration due to gold particles may remain.
Collect larger spills using techniques such as inert sorbent materials or pumping.
Wash contaminated surfaces with plenty of water.
Follow prescribed procedures for responding to large spills and reporting to appropriate authorities.

6.4. Reference to other sections

Refer to Section 8 (exposure control) and Section 13 (disposal) as appropriate.

Section 7: Handling and storage

7.1. Precautions for safe handling

Containment and measures for safe handling:

Avoid contact with skin, eyes and clothing. Do not breathe vapors/mist/spray. Keep container tightly closed when not in use. Contains nanomaterials, and ingredients which have not been fully tested, so handle with caution.
Store in a sealed container without damage or leakage.

Advice on general occupational hygiene:

Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Store at temperatures between 1 and 30 °C (34 – 86 °F).
Refrigeration is not required. Do not freeze.
Avoid storing under high humidity.
Avoid exposure to direct sunlight.

Incompatible materials: Strong oxidizing agents, hypochlorite solution

7.3. Specific end use(s)

Integrity test (gold particle test) of Planova filters.

Section 8: Exposure controls/personal protection

8.1. Control parameters
Occupational Exposure Limits: Not established in the US or EU.

8.2. Exposure controls
Appropriate engineering controls:

Recommended to handle in fume hood, but careful handling may be sufficient for small quantities of product.

Use only in facilities equipped with a safety shower, and hand and eye washing facilities near the handling and storage areas. The locations of these safety facilities must be clearly marked.

8.3. Individual protection measures, such as personal protective equipment:
Respiratory protection: Wear respiratory protective equipment if exposure to vapor/mist/spray is likely. PPE should be to European (EN) or US Standards. Consult manufacturers concerning breakthrough times.

Skin protection: chemical resistant gloves (e.g., butyl or nitrile rubber) and suitable protective clothing (e.g., apron, sleeves and boots).

Eye protection: Wear safety goggles.

8.4. Environmental exposure controls:
Take care to not release product into drains, sewers, and streams or other waterways.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	Purple colored colloidal solution
Odor:	Odorless
Odor threshold:	No information
pH:	Around 5
Melting point:	ca. 0 °C (water)
Boiling point:	ca. 100 °C (water)
Flash point:	Not expected for water-based product
Evaporation rate:	No information
Flammability (solid, gas)	Not expected for water-based product
Upper/lower flammability or explosive limits:	No information
Vapor pressure:	ca. 24 mmHg (25 °C) (water)
Vapor density	No information
Relative density	No information
Solubility(ies)	No information
Partition coefficient: *n*-octanol/water	No information
Auto-ignition temperature	No information
Decomposition temperature	No information
Viscosity	No information
Explosive properties	Not expected for water-based product
Oxidizing properties	No information

9.2. Other information

Particle size:	Around 18 – 38 nm

Section 10: Stability and reactivity

10.1. Reactivity:

This product is considered to be a non-reactive material under normal and anticipated storage and handling conditions.

10.2. Chemical stability

Stable under recommended storage and usage conditions.
Some substances may cause coagulation and settling of gold colloids.
Aggregation of gold colloids may cause a change in solution color from purple to blue.

10.3. Possibility of hazardous reactions

No information available

10.4. Conditions to avoid

Avoid high temperature and direct sunlight. Do not freeze.
Store between 1 and 30 °C (34 – 86 °F).

10.5. Incompatible materials

Strong oxidizing agents, hypochlorite solution

10.6. Hazardous decomposition products

If involved in a fire, this product will emit hazardous decomposition and combustion fumes (e.g., sulfur oxides, nitrogen oxides, carbon monoxide, carbon dioxide and chlorine derivatives).

Section 11: Toxicological information

11.1 Information on toxicological effects

Information on mixture:

Skin corrosion/irritation:	May irritate skin and cause deposition of purple-colored gold on skin surface, which is difficult to remove when dried.
Serious eye damage/ irritation	May irritate eyes and cause deposition of purple-colored gold on eye surface.

Information on ingredient (sodium lauryl sulfate, 151-21-3):

Acute toxicity (oral):	Rat LD_{50} = 1,200 mg/kg
Acute toxicity (dermal):	Rabbit LD_{50} = ca. 600 mg/kg
Skin corrosion/irritation:	According to results of tests in rabbits, “Severely irritating (PII: 7.73)”, and “Moderately to strongly irritating”. Moderately irritating in humans at a concentration of 20%.
Serious eye damage/ irritation:	Severely irritating to the eyes of rabbits and caused irreversible corneal effects.
Skin sensitization:	In the OECD SIDS report, it is concluded that alkyl sulfates will give no concern for skin sensitizing properties based on the available data in experimental animals as well as from data in humans.
Germ cell mutagenicity:	(*in vitro*) Negative in Ames test. (*in vitro*) Negative in mouse lymphoma cell forward mutation assay. (*in vivo*) Negative in chromosome aberration assay in rats. (*in vivo*) Negative in dominant lethal assay in mice.
Carcinogenicity:	No information
Reproductive toxicity:	No information

STOT-single exposure:	Respiratory irritation was observed in mouse, rabbit and guinea pig those exposed via aerosol.
STOT-repeated exposure:	In a 28-day gavage study with rats, an increase in alanine aminotransferase (ALT) activity accompanied by an increase of relative weights of liver was observed. In the OECD SIDS report, it is concluded that the liver is the only target organ for systemic toxicity of alkyl sulfates based on results of oral application tests with chain lengths between C_{12} and C_{18}.
Aspiration hazard:	No information

11.2 Information on the likely routes of exposure

Refer to Section 11.1 (Information on toxicological effects)

11.3 Symptoms related to the physical, chemical and toxicological characteristics

Refer to Section 11.1 (Information on toxicological effects)

11.4 Delayed and immediate effects and also chronic effects from short and long term exposure

Acute effects: May cause eye damage
Delayed effects: No information

11.5 Numerical measures of toxicity

Not applicable

11.6 Interactive effects

No information

11.7 Whether the chemical is listed in the NTP Report on Carcinogens or has been found to be a potential carcinogen in the IARC Monographs, or by OSHA

IARC: Not listed as Group 1, 2A or 2B
NTP Report: Not listed
OSHA: Not listed

Section 12: Ecological information

12.1. Toxicity:

Information on mixture: No information

Information on ingredient (sodium lauryl sulfate, 151-21-3):

Aquatic acute toxicity:	Crustacea (*Homarus americanus*) 96 h LC_{50} = 0.72 mg/L Algae (*Desmodesmus subcapitata*) 72 h ErC_{50} > 120 mg/L Algae (*Pseudokirchneriella subcapitata*) 96 h ErC_{50} = 117 mg/L
Aquatic chronic toxicity:	Fish (*Pimephales promelas*) 42 d NOEC > 1.36 mg/L Crustacea (*Ceriodaphnia dibia*) 7 d NOEC = 0.88 mg/L Algae (*Desmodesmus subcapitata*) 72 h NOEC = 30 mg/L

12.2. Persistence and degradability:

Information on mixture: No information

Information on ingredient (sodium lauryl sulfate, 151-21-3): Rapidly degradable

12.3. Bioaccumulative potential:

Information on mixture: No information

Information on ingredient (sodium lauryl sulfate, 151-21-3):
Fish (*Cyprinus carpio*) BCF = 3.9 – 5.3

12.4. Mobility in soil:
No information

12.5. PBT and vPvB in accordance with EU CLP: The solution does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6. Other adverse effects:
Includes ingredients that may persist in the environment.
Contains nanomaterials and ingredients which have not been fully tested.
Dispose of with care.

Section 13: Disposal considerations

13.1. Waste treatment methods
Do not dispose of via the drains or to landfill.
Recycling is the recommended route of disposal.
Disposal must be in accordance with current national and local regulations.
Chemical residues generally count as special waste, and their disposal may be regulated in EC member countries through applicable laws and regulations.
We recommend that you contact either the authorities or an approved waste disposal company for advice on disposal of special waste.
General EU requirements are given in the Waste Framework Directive (75/442/EEC) and the Hazardous Waste Directive (91/689/EEC).
Packaging and other wastes may contain residues of the product and should be treated accordingly.

Section 14: Transport information

14.1. UN number:	Not applicable
14.2. UN proper shipping name:	Not applicable
14.3. Transport hazard class(es):	Not applicable
14.4. Packing group:	Not applicable
14.5. Environmental hazards:	Not applicable
14.6. Special precautions for user:	Confirm that containers have no leaks before moving. Protect containers against fall, drop and physical damage**.**

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code
Not applicable

Section 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question
The product and its ingredients are not regulated by specific provisions related to protection of human health or the environment at EU level, e.g., not considered as SVHCs or POPs.

EU
REACH Regulation (1907/2006).
Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.
Chemical Agents Directive (98/24/EC).
Personal Protective Equipment (EC Directive) Regulations SI 1992/3139.

BELGIUM
Appendix II of the "Règlement Général pour la Protection du Travail (RGPT)" or "Algemeen Reglement voor de Arbeidsbescherming (ARAB).
Occupational exposure limits: Valeurs Limites d'Exposition Professionnelle (VLEP); or Grenswaarden voor Beroepsmatige Blootstelling (GWBB); Annex 1 of the arrêté royal du 11 mars 2002 relatif à la protection de la santé et de la sécurité des travailleurs contre les risques liés à des agents chimiques sur le lieu de travail; Ministry of Employment and Work.

FRANCE
Decree of 21 February 1990, définissant les critères de classification et les conditions d'etiquetage at d'emballage des preparations dangereuses, as amended.
The Control of Chemical Products Act, Law 77-771 of 12 July 1977, sur Ie Controle des Produit Chimiques, as amended.
Valeurs limites d'exposition professionelle aux agents chimiques en Institut National de Recherche et de Sécurité, Document ED 984.

GERMANY
The product is self-classified as WGK 1 on the basis of ingredient information.
Chemicals Act: Gesetz zum Schutz vor gefährlichen Stoffen (Chemikaliengesetz - Chem G).
Dangerous Substances Ordinance: Verordnung zum Schutz vor gefährlichen Stoffen (Gefahrstoffverordnung - GefStoffV).
WGK Regulation: Verwaltungsvorschrift wassergefährdende Stoffe (VwVwS).
Occupational exposure limits: List of MAK and BAT Values 2006, Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area, Report No. 42, Wiley-VCH.

UK
Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716) (CHIP4).
Control of Substances Hazardous to Health Regulations 2002 (COSHH).
Health and Safety at Work Act 1974 c 37.
Workplace Exposure Limits EH40/2005 with 2007 supplement, Health and Safety Executive.

UNITED STATES
OSHA: Not hazardous
TSCA inventory: All ingredients in this product are listed on the TSCA Inventory.
TSCA SNUR: Not listed
SARA Title III: Not listed
CERCLA Reportable Quantity: Not listed
Clean Air Act: This product does not contain any substances regulated as hazardous air pollutants under Section 112 of the Clean Air Act.
Clean Water Act: This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act.
CALIFORNIA PROPOSITION 65: This product does not contain any chemical substances known to the State to cause cancer or reproductive toxicity according to the list of March 2015.

Section 16: Other information

Update history:
Date of first issue: April 10, 2004
Date of most recent revision: September 3, 2021; Supersedes Version 3.0 issued August 26, 2015
Sections revised: Content changes were made to Sections 7 and 10.

References:
Data of Asahi Kasei Medical Co., Ltd.
OECD SIDS Initial Assessment Report, Category of Alkyl sulfates, Alkane sulfonates and α-olefin sulfonates (2007)
NITE GHS classification results (2015)

Additional information on nanomaterials:
Hazard data is not available. The following reports provide information on the regulation of nanomaterials. Consult the regulations in effect in the country of use.

Report on Regulatory Aspects of Nanomaterials (2008/2208(INI)), Committee on the Environment, Public Health and Food Safety, European Parliament Rapporteur: Carl Schlyter

Sixth Session - Forum VI Final Report (IFCS/FORUM-VI/07w), WHO Intergovernmental Forum on Chemical Safety, Dakar, Senegal, September 15-19, 2008, issued October 10, 2008.

Full text of Hazard statements referred to in Sections 2 and 3*:*
H302: Harmful if swallowed
H311: Toxic in contact with skin
H315: Causes skin irritation
H318: Causes serious eye damage
H335: May cause respiratory irritation
H373: May cause damage to liver through prolonged or repeated exposure
H400: Very toxic to aquatic life

Abbreviations
BCF: Bioconcentration Factor
CAS No.: Chemical Abstracts Service Registry Number
EC: European Community
ErC_{50}: Median Effect Concentration
LD_{50}: Lethal Dose50
NOEC: No Observed Effect Concentration
OECD SIDS: Organisation for Economic Co-operation and Development Screening Information Data Set
PBT: Persistent, Bioaccumulative and Toxic substance
POPs: Persistent Organic Pollutants
STOT: Specific Target Organ Toxicity
SVHC: Substances of Very High Concern
vPvB: Very Persistent and Very Bioaccumulative

[Disclaimer]
The information on this material safety data sheet is furnished, expressed or implied, without any warranty, except that it is assumed to be accurate to the best knowledge of Asahi Kasei Medical. It relates only to the specific product designated herein, and does not relate to use in combination with any other material or in any process. Asahi Kasei Medical Corporation assumes no legal responsibility for use of or reliance upon this information.

Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier

Product/chemical name: SDS (Sodium Lauryl Sulfate)
Index number: Not applicable
EC number: 205-788-1
CAS number: 151-21-3
REACH number: No registration number is available for this substance as the substance or its uses are exempted from registration; the annual tonnage does not require registration.

1.2. Relevant identified uses of product: Solely for the post-use GPT of Planova™ filters

1.3.Contact information of Manufacturer/Supplier:

Name of manufacturer:

Asahi Kasei Medical Co., Ltd.
Bioprocess Division
1-1-2 Yurakucho, Chiyoda-ku, Tokyo 100-0006 JAPAN
Tel: +81-3-6699-3782; Fax: +81-3-6699-3784
Email address: info.jp@ak-bio.com

Name of supplier (importer) in the EU:

N.V. Asahi Kasei Bioprocess Europe S.A.
Rue Colonel Bourg, 122, 1140 Brussels, Belgium
Tel: +32-2-526-0500; Fax: +32-2-526-0510
Email address: info.eu@ak-bio.com

Name of supplier (importer) in the US:

Asahi Kasei Bioprocess America, Inc.
1855 Elmdale Avenue, Glenview, IL 60026 USA
Tel: +1-847-556-9700; Fax: +1-847-556-9701
Email address: info.us@ak-bio.com

1.4. Emergency telephone number

In case of emergency, call the local poison control center.

Section 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to OSHA HCS:

Physical Hazards Not classified

Health Hazards

Acute toxicity (oral): Category 4
Acute toxicity (dermal): Category 3
Skin corrosion/irritation: Category 2
Eye damage/irritation: Category 1
Specific target organ toxicity single exposure: Category 3 (respiratory tract irritation)
Specific target organ toxicity repeated or prolonged exposure: Category 2 (liver)

Environmental Hazards

Hazardous to the aquatic environment (acute): Category 1

Other Hazards No information

Classification according to EU CLP:

Acute Tox. 4: H302
Acute Tox. 3: H311
Skin Irrit. 2: H315
Eye Dam. 1: H318
STOT SE 3: H335 (respiratory tract irritation)
STOT RE 2: H373 (liver)
Aquatic Acute 1: H400

2.2. Label elements:
In accordance with OSHA HCS and EU CLP:

Pictogram(s)

Signal word: Danger

Hazard statements:

Harmful if swallowed (H302)
Toxic in contact with skin (H311)
Causes skin irritation (H315)
Causes serious eye damage (H318)
May cause respiratory irritation (H335)
May cause damage to liver through prolonged or repeated exposure (H373)
Very toxic to aquatic life (H400)

Precautionary statements:

Prevention
Wash hands thoroughly after handling. (P264)
Do not eat, drink or smoke when using this product. (P270)
Wear protective gloves/protective clothing/eye protection/face protection. (P280)
Use only outdoors or in a well-ventilated area. (P271)
Do not breathe dust/mist/vapors/spray. (P260)
Avoid release to the environment. (P273)

Response
IF SWALLOWED: Call a poison center/doctor if you feel unwell. (P301+P312)
Rinse mouth. (P330)
IF ON SKIN: Wash with plenty of water. (P302+P352)
Take off immediately all contaminated clothing and wash it before reuse. (P361+P364)
If skin irritation occurs: Get medical advice/attention. (P332+P313)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)
Immediately call a poison center/doctor. (P310)
IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304+P340)

Collect spillage. (P391)

Storage
Store locked up. (P405)

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations. (P501)

2.3. Other hazards:

In accordance with OSHA HCS: No information
In accordance with EU CLP: The substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Section 3: Composition/information on ingredients

3.1. Substances

Product/chemical name:	SDS (Sodium Lauryl Sulfate)
Synonym:	Sodium dodecyl sulfate
Index number:	Not applicable
EC number:	205-788-1
CAS number:	151-21-3
Purity:	≥99.0%

Section 4: First-aid measures

4.1. Description of first aid measures
IF INHALED: Remove victim to fresh air and keep at rest in a comfortable for breathing. If not breathing or breathing is weakened, secure a clear airway then give artificial respiration.
IF ON SKIN: Take off the contaminated clothes immediately. If on skin, rinse with plenty of water immediately.
IF IN EYES: Rinse softly with clean water for at least 15 minutes. Get medical advice/attention as soon as possible.
IF SWALLOWED: Immediately get medical advice/attention. Rinse mouth. If conscious, get affected person to drink one or two glass of water then insert fingers into the throat to induce vomiting. If unconscious, do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed
Acute effects:
Harmful if swallowed
Toxic in contact with skin
Causes skin irritation
Causes serious eye damage
May cause respiratory irritation

Delayed effects:
May cause damage to liver through prolonged or repeated exposure

4.3. Indication of any immediate medical attention and special treatment needed
Show this *Safety Data Sheet* to medical personnel. Give symptomatic treatment and supportive therapy.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Water spray, dry chemical powder, foam, carbon dioxide, or sand
Unsuitable extinguishing media: Direct discharge of water jet

5.2. Specific hazards arising from the substance or mixture

If involved in a fire, this product may emit hazardous decomposition and combustion fumes (e.g., sulfur oxides and carbon monoxide).

5.3. Advice for firefighters

Firefighters should use full protective gear for surrounding fire.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel:

Evacuate, except for responsible personnel
In case of emergency, contact local authorities and responsible personnel

For emergency responders:

Wear appropriate personal protective equipment described in Section 8 (exposure control) to prevent inhalation and contact with eyes and skin.

6.2. Environmental precautions

Prevent leakage of product into water courses or drainage systems by diking with sand or other absorbent material.
Contact authorities, water company and waste-water treatment plant as appropriate if significant contamination occurs.

6.3. Methods and materials for containment and cleaning up

Avoid the generation of dust.
Absorb the spill promptly with towels, and clean area with water.
Collect larger spills using techniques such as inert sorbent materials or pumping.
Wash contaminated surfaces with plenty of water.
Follow prescribed procedures for responding to large spills and reporting to appropriate authorities.

6.4. Reference to other sections

Refer to Section 8 (exposure control) and Section 13 (disposal) as appropriate.

Section 7: Handling and storage

7.1. Precautions for safe handling

Containment and measures for safe handling:

In the storage area, install adequate light and ventilation systems to handle hazardous materials.
Take precautionary measures against static discharge.
Avoid contact with skin, eyes and clothing. Do not breathe dust. Wash thoroughly after handling. Keep container tightly closed when not in use.

Incompatible substances or mixtures:

Strong oxidizing agents.

Advice on general occupational hygiene:
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Avoid storing under high temperature and high humidity.
Avoid exposure to direct sunlight.
Store at room temperature.
Packing materials: glass, polypropylene, etc.

7.3. Specific end use(s)

Integrity test (gold particle test) of Planova filters

Section 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits: Not established in the US or EU.

8.2. Exposure controls

Recommended to handle in fume hood, but careful handling may be sufficient for small quantities of product.
Use only in facilities equipped with a safety shower, and hand and eye washing facilities near the handling and storage areas. The locations of these safety facilities must be clearly marked.

8.3. Individual protection measures, such as personal protective equipment:

Respiratory protection: Wear respiratory protective equipment if exposure to dust is likely. PPE should be to European (EN) or US Standards. Consult manufacturers concerning breakthrough times.
Skin protection: chemical resistant gloves (e.g., butyl or nitrile rubber) and suitable protective clothing (e.g., apron, sleeves and boots).
Eye protection: Wear safety goggles.

8.4. Environmental exposure controls:

Take care to not release product into drains, sewers, and streams or other waterways.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	White to pale yellow crystalline powder
Odor:	Odorless
Odor threshold:	No information
pH:	5 – 8 (10 g/L, 25 °C)
Melting point:	204 °C
Initial boiling point and boiling point range:	No information
Flash point:	No information
Evaporation rate:	No information
Flammability (solid, gas)	No information
Upper/lower flammability or explosive limits	No information
Vapor pressure:	No information
Vapor density	No information
Relative density	No information
Solubility(ies)	Soluble in water Moderately soluble in ethanol Very slightly soluble in diethyl ether

Partition coefficient:	
n-octanol/water	1.6
Auto-ignition temperature	No information
Decomposition temperature	No information
Viscosity	No information
Explosive properties	No information
Oxidizing properties	No information

9.2. Other information

No information

Section 10: Stability and reactivity

10.1. Reactivity:

This product is considered to be a non-reactive material under normal and anticipated storage and handling conditions.

10.2. Chemical stability

Stable under recommended storage and usage conditions.

10.3. Possibility of hazardous reactions

May react with oxidizing agents

10.4. Conditions to avoid

Avoid sunlight, heat, contact with incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

If involved in a fire, this product will emit hazardous decomposition and combustion fumes (e.g., sulfur oxides).

Section 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity (oral):	Rat LD_{50} = 1,200 mg/kg
Acute toxicity (dermal):	Rabbit LD_{50} = ca. 600 mg/kg
Skin corrosion/irritation:	According to results of tests in rabbits, “Severely irritating (PII: 7.73)”, and “Moderately to strongly irritating”. Moderately irritating in humans at a concentration of 20%.
Serious eye damage/ irritation:	Severely irritating to the eyes of rabbits and caused irreversible corneal effects.
Skin sensitization:	In the OECD SIDS report, it is concluded that alkyl sulfates will give no concern for skin sensitizing properties based on the available data in experimental animals as well as from data in humans.
Germ cell mutagenicity:	(*in vitro*) Negative in Ames test. (*in vitro*) Negative in mouse lymphoma cell forward mutation assay. (*in vivo*) Negative in chromosome aberration assay in rats. (*in vivo*) Negative in dominant lethal assay in mice.
Carcinogenicity:	No information
Reproductive toxicity:	No information

STOT-single exposure:	Respiratory irritation was observed in mouse, rabbit and guinea pig those exposed via aerosol.
STOT-repeated exposure:	In a 28-day gavage study with rats, an increase in alanine aminotransferase (ALT) activity accompanied by an increase of relative weights of liver was observed. In the OECD SIDS report, it is concluded that the liver is the only target organ for systemic toxicity of alkyl sulfates based on results of oral application tests with chain lengths between C_{12} and C_{18}.
Aspiration hazard:	No information

11.2 Information on the likely routes of exposure

Refer to Section 11.1 (Information on toxicological effects)

11.3 Symptoms related to the physical, chemical and toxicological characteristics

Refer to Section 11.1 (Information on toxicological effects)

11.4 Delayed and immediate effects and also chronic effects from short and long term exposure

Acute effects:
Harmful if swallowed
Toxic in contact with skin
Causes skin irritation
Causes serious eye damage
May cause respiratory irritation
Delayed effects:
May cause damage to liver through prolonged or repeated exposure

11.5 Numerical measures of toxicity

Not applicable

11.6 Interactive effects

No information

11.7 Whether the chemical is listed in the NTP Report on Carcinogens or has been found to be a potential carcinogen in the IARC Monographs, or by OSHA

IARC: Not listed
NTP Report: Not listed
OSHA: Not listed

Section 12: Ecological information

12.1. Toxicity:

Aquatic acute toxicity:	Crustacea (*Homarus americanus*) 96 h LC_{50} = 0.72 mg/L Algae (*Desmodesmus subcapitata*) 72 h ErC_{50} > 120 mg/L Algae (*Pseudokirchneriella subcapitata*) 96 h ErC_{50} = 117 mg/L
Aquatic chronic toxicity:	Fish (*Pimephales promelas*) 42 d NOEC > 1.36 mg/L Crustacea (*Ceriodaphnia dibia*) 7 d NOEC = 0.88 mg/L Algae (*Desmodesmus subcapitata*) 72 h NOEC = 30 mg/L

12.2. Persistence and degradability: Rapidly degradable

12.3. Bioaccumulative potential: Fish (*Cyprinus carpio*) BCF = 3.9 – 5.3

12.4. Mobility in soil:
No information

12.5. PBT and vPvB in accordance with EU CLP: The substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6. Other adverse effects:
No information

Section 13: Disposal considerations

13.1. Waste treatment methods

Do not dispose of via the drains or to landfill.
Recycling is the recommended route of disposal.
Disposal must be in accordance with current national and local regulations.
Chemical residues generally count as special waste, and their disposal may be regulated in EC member countries through applicable laws and regulations.
We recommend that you contact either the authorities or an approved waste disposal company for advice on disposal of special waste.
General EU requirements are given in the Waste Framework Directive (75/442/EEC) and the Hazardous Waste Directive (91/689/EEC).
Packaging and other wastes may contain residues of the product and should be treated accordingly.

Section 14: Transport information

14.1. UN number:	3077
14.2. UN proper shipping name:	Environmentally hazardous substance, solid N.O.S. (Sodium lauryl sufate)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
14.5. Environmental hazards:	Applicable
14.6. Special precautions for user:	Confirm that containers have no leaks before moving. Protect containers against fall, drop and physical damage. Avoid exposure to direct sunlight.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code
Not applicable

Section 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

The substance is not regulated by specific provisions related to protection of human health or the environment at EU level, e.g., not considered as SVHCs or POPs.

EU

REACH Regulation (1907/2006).
Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.
Chemical Agents Directive (98/24/EC).
Personal Protective Equipment (EC Directive) Regulations SI 1992/3139.

BELGIUM

Appendix II of the "Règlement Général pour la Protection du Travail (RGPT)" or "Algemeen Reglement voor de Arbeidsbescherming (ARAB).
Occupational exposure limits: Valeurs Limites d'Exposition Professionnelle (VLEP); or Grenswaarden voor Beroepsmatige Blootstelling (GWBB); Annex 1 of the arrêté royal du 11 mars 2002 relatif à la protection de la santé et de la sécurité des travailleurs contre les risques liés à des agents chimiques sur le lieu de travail; Ministry of Employment and Work.

FRANCE

Decree of 21 February 1990, définissant les critères de classification et les conditions d'etiquetage at d'emballage des preparations dangereuses, as amended.
The Control of Chemical Products Act, Law 77-771 of 12 July 1977, sur le Controle des Produit Chimiques, as amended.
Valeurs limites d'exposition professionelle aux agents chimiques en Institut National de Recherche et de Sécurité, Document ED 984.

GERMANY

The product is self-classified as WGK 1 on the basis of ingredient information.
Chemicals Act: Gesetz zum Schutz vor gefährlichen Stoffen (Chemikaliengesetz - Chem G).
Dangerous Substances Ordinance: Verordnung zum Schutz vor gefährlichen Stoffen (Gefahrstoffverordnung - GefStoffV).
WGK Regulation: Verwaltungsvorschrift wassergefährdende Stoffe (VwVwS).
Occupational exposure limits: List of MAK and BAT Values 2006, Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area, Report No. 42, Wiley-VCH.

UK

Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716) (CHIP4).
Control of Substances Hazardous to Health Regulations 2002 (COSHH).
Health and Safety at Work Act 1974 c 37.
Workplace Exposure Limits EH40/2005 with 2007 supplement, Health and Safety Executive.

UNITED STATES

OSHA: Hazardous chemical
TSCA inventory: Listed on the TSCA Inventory.
TSCA SNUR: Not listed
SARA Title III: Not listed
CERCLA Reportable Quantity: Not listed
Clean Air Act: Not regulated
Clean Water Act: Not regulated
CALIFORNIA PROPOSITION 65: Not listed

Section 16: Other information

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References:
Data of Asahi Kasei Medical Co., Ltd.
OECD SIDS Initial Assessment Report, Category of Alkyl sulfates, Alkane sulfonates and α-Olefin sulfonates (2007)
NITE GHS classification results (2015)

Full text of Hazard statements referred to in Sections 2 and 3*:*
H302: Harmful if swallowed
H311: Toxic in contact with skin
H315: Causes skin irritation
H318: Causes serious eye irritation
H335: May cause respiratory irritation
H373: May cause damage to liver through prolonged or repeated exposure
H400: Very toxic to aquatic life

Abbreviations
BCF: Bioconcentration Factor
CAS No.: Chemical Abstracts Service Registry Number
EC: European Community
ErC_{50}: Median Effect Concentration
LD_{50}: Lethal Dose50
NOEC: No Observed Effect Concentration
OECD SIDS: Organisation for Economic Co-operation and Development Screening Information Data Set
PBT: Persistent, Bioaccumulative and Toxic substance
POPs: Persistent Organic Pollutants
STOT: Specific Target Organ Toxicity
SVHC: Substances of Very High Concern
vPvB: Very Persistent and Very Bioaccumulative

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