ADI SURFACE DISINFECTANT
0.5%w/w Solution in water

MATERIAL SAFETY DATA SHEET

May 2020

Version 1.0

Note: It is important to note that this MSD sheet refers to the solution handling of the material and does not reflect or refer to the specifications insofar as dosage is concerned.

1. PRODUCT AND COMPANY IDENTIFICATION:

Trade / Product Name:	**ADI Surface Disinfectant (solution)**
Company Name:	[redacted]
Chemical Name:	**Corrosive solid, acidic, inorganic, N.O.S.**
UN No:	**3264**
ERG No:	**154**
Hazchem Code:	**4we**
EAC:	**0**

2. COMPOSITION:

OXIDIZER/SANITIZER: **Proprietary blend of various sulfate salts, bioflavonoids.**

3. HAZARDS IDENTIFICATION:

- **Could cause minor irritation**

4. FIRST AID MEASURES

FIRST AID SKIN	**Remove & isolate contaminated clothing and shoes** **For minor skin contact, avoid spreading material on unaffected skin** **Flush body with plenty of water for at least 20 minutes. Keep warm and quiet.**
FIRST AID EYES	**Flush eyes with water for 20 minutes** **Hold eyelids open while washing.**
FIRST AID INGESTED	**Do not induce vomiting** **Seek medical assistance**
FIRST AID INHALATION	**Move victim to fresh air. If not breathing give artificial respiration** **Do not use mouth-to-mouth, if victim has inhaled or ingested the substance,** **Induce artificial respiration with the aid of a pocket mask with a one-way valve.** **If breathing of victim is difficult administer oxygen. Effects of exposure may be delayed.**

5. FIRE FIGHTING MEASURES

Small Fires: **Dry chemical, CO_2 or water spray.**
Large Fires: **Dry chemical, CO_2, alcohol-resistant foam or water spray.**
Move containers from fire area if you can do it without risk.
Dike fire control water for later disposal: do not scatter the material.
Cool containers with flooding quantities of water until well after fire is out.
Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
Isolate spill or leak areas immediately for at least 25 to 50 meters in all directions.
Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate enclosed areas.

5. Fire Fighting Measures Continue

Wear positive pressure self-contained breathing apparatus (SCBA)
Wear chemical protective clothing, which is specifically recommended by the manufacturer.
Structural firefighters protective clothing is recommended for fire situations ONLY; it is not effective in spill situations.

6. ACCIDENTAL RELEASE MEASURES

General Information:	**Isolate defective containers immediately, if possible and safe to do** **Keep away from heat.**
Personal precautionary measures:	**Wear personal protective equipment; see section 8** **Keep unprotected persons at a distance.**

[redacted]

	Keep unauthorized persons away.
Procedure for cleaning/absorption	Pour into clean dry plastic containers. Keep containers open: do not seal hermetically Avoid contact with incompatible substances. See section 10. Rinse away any residue with plenty of water. Dispose of absorbed material in accordance with regulation. See section 13.
Additional information:	Never return spilled product into its original container for re-use. (Risk of decomposition)

7. HANDLING AND STORAGE

Handling:	
Directions for safe handling:	Avoid contact with impurities, decomposition catalysts, Incompatible substances. See section 10 Wear personal protective equipment. See section 8 Avoid contact with the eyes, skin and clothing. Remove contaminated or saturated clothing. Wash face and / or hands before break and end of work.
Prevention skin protection recommended:	Do not re-use spilt or soiled product Never return spilled product into its original container for re-use
Additional guidelines:	Provide for installation of emergency shower and eye bath. Production of safety guides and operating instructions. (Relating to the workplace)
Directions on fire and explosion safety:	Avoid sun rays, heat, heat effect. Keep away from combustible material. Product itself is not combustible.
Storage: Requirement for storage rooms:	Store in cool and dry place. Protect from sources of heat. Cool, dry, clean, lockable.
Requirements for containers: Suitable materials are:	Use only suitable materials for transportation, storage and handling. Polyvinyl chloride (PVC) Polyethylene Polypropylene Glass Ceramics Always close container tightly after removal of product. Do not keep the container sealed Store in a cool and dry place.
Directions on storing materials together:	Do not store together with: metallic, salts, alkalis, reducing agents. (Risk of decomposition) Combustible substances (danger of fire) Further information on storage conditions See section 15

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits Controls:	No Exposure Limits Established The control measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. The best protection is to enclose operations and / or provide local exhaust ventilation at the site of chemical release.

	Use a non-sparking, grounded ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside. Supply sufficient replacement air to make up for air removed. Have a safety shower/eye wash fountain readily available in the immediate work area.
Personal Protection:	Personal protective equipment.
Measures for general protection and hygiene:	Avoid contact with skin and eyes. If there is the possibility of skin/eye contact the indicated hand/eye/body protection should be used. The workplace related airborne concentrations have to be below the indicated exposure limits. If the limits at the workplace are exceeded and/or larger amounts are released (leakage, spillage, dust) the indicated respiratory protection should be used. No eating, drinking, smoking or snuffing tobacco at work. Wash face and/or hands before break and end of work. Preventive skin protection recommended.
Respiratory protective equipment:	If dust occurs wear dust mask when preparing the solution. If necessary, wear nose and mouth mask with P2 particle filter.
Hand protection	Wear protective gloves made of the following materials: PVC, rubber
Eye Protection:	If dust occurs, wear basket shaped glasses.
Body protection:	Wear suitable protective clothing Avoid contaminating clothes with product. Remove contaminated or saturated clothing Wash contaminated clothing immediately with water.

9. PHYSICAL & CHEMICAL PROPERTIES

White salt, crystalline, free flowing, odorless

Alteration in conditions Melting point/range	not applicable
Boiling point/range	not applicable
Flashpoint	not applicable
Inflammability	not applicable
Ignition temperature	not applicable
Spontaneous ignition	not applicable
Explosion limits Dust explosion	not applicable
Vapour pressure	no applicable
Bulk density	1050 kg/m³
Active oxygen content	approx. 0.05%
Solubility	approx. 250g/1 (20ºC)
Medium PH value Medium	water approx. 2-5 (30g/l) water (25ºC)
Additional information	oxidizing agent

10. STABILITY AND REACTIVITY

Conditions to Avoid	**Product is an oxidizing agent** **Product is stable** **Risk of decomposition when exposed to heat** **Product itself is not combustible**
Condition to avoid:	**Avoid sunrays, heat, heat effect and humidity**
Incompatible Materials	**Substances to be avoided** **Impurities, metal ions, metallic salts** **Alkalis, reducing agents – reducing agents (risk of decomposition)** **Combustible substances (danger of fire)** **Dangerous products of decomposition** **Under conditions of thermal decomposition** **Sulphur dioxide (low) and oxygen.**

11. TOXICOLOGICAL INFORMATION

Acute toxicity	**LD/LC 50 values relevant for classification**
Acute oral toxicity	**LD 50 = 1204 mg/kg, rat, literature**
Acute dermal toxicity	**LD 50 > 11000 mg/kg, rabbit, literature**
Acute inhalation toxicity	**LC 50 > 5 mg/1/4h, rat, literature**
Primary irritating effect	**Primary irritating effect to skin: corrosive, rabbit, OECD 404** **Primary irritating effect to the eyes: highly irritating, rabbit, literature**
Sensitization	**Maximization test, guinea pig, not sensitizing, OECD 406**
Genotoxicity	**Ames test, salmonella typhimurium, negative, literature**
Sub-acute toxicity	**No effect level (NOEL): 0.043mg/l, target organ** **Eye (irritating effect)** **Body weight development negative**
Experiences with human beings	**Irritation and occasion caustic effects to the skin and mucous membranes (eyes, respiratory channels, in the stomach/intestinal tracts after swallowing) are to be expected from local contact.** **Allergic reactions are possible.**

12. ECOLOGICAL INFORMATION

Data on elimination (Persistence and degradability)	**Medium: water/soil** **A biotic degradation on account of hydrolysis, reduction**
Behavior in environmental fields	**Under ambient condition quick hydrolysis, decomposition or reduction occurs.** **Hydrolyzed following 5h to 50% (23ºC, pH7)** **The following substances are formed: oxygen and sulphate.**

	Mobility and bioaccumulation potential Bioaccumulation: none Hydrolysis, decomposition, reduction The following substances are formed: oxygen, and sulphate. Mobility and bioaccumulation potential Bioaccumulation: none Hydrolysis, decomposition, reduction The following substances are formed: oxygen, and sulphate
Eco-toxic effects	Aquatic toxicity Fish toxicity: LC50 (96h) > 32 mg/l <56 mg/l, Brachydanio rerio, OECD 203 Toxicity to crustaceans: Acute water flea toxicity: EC 50 (24h) = 5.3 mg/l. Daphnia magna, OECD 202 Acute water flea toxicity: NOEC (24h) = 1.8 mg/l, Daphnia magna OECD 202 Behavior in water treatment plants: Hydrolysis, decomposition, reduction The following substances are formed: oxygen and sulphate
Bacteria toxicity	Pseudomonas putida, EC 10 (18h) = 108 mg/l DEV, DIN 38412, T, 8
Further ecological information	Chemical oxygen demand: COD value: not applicable (inorganic product) Biochemical oxygen demand: BOD5 value: not applicable (inorganic product) AOX information: The product does not contain any organically bonded halogen

13. DISPOSAL CONSIDERATION

Disposal Method Product	This product must be disposed of as an inorganic Chemical in accordance with the regulations issued by the appropriate local authorities Recommendation Return residue and solutions that cannot be re-used to a recognized waste disposal company If necessary, contact the relevant authorities
Disposal Method Packaging	Recommendation Do not re-use empty containers and dispose of in accordance with the regulations issued by the appropriate local authorities Take decontaminated packaging to local recycling center Recommended cleaning agent: WATER

14. TRANSPORT INFORMATION

Hazchem Code:	4we
EAC	0
IMDG-Shipping Name	CORROSIVE SOLUTION, ACIDIC, INORGANIC, N.O.S.
IMDG Code	UN 3264
Marine Pollutant	No
Class	CLASS: 8 Corrosive Group: I/II/III
Subsidiary Risks	None
Tremcard Number	

15. REGULATORY INFORMATION

EEC Hazard Classification	**8**
Risk Phrases	**R 8-22-34**
Safety Phrases	**S-Phrases**
	S 26-36/37/39-45
	In case of contact with eyes, rinse immediately with plenty of water seek medical advice **Wear suitable protective clothing, gloves and eye/face protection** **In case of accident or if you feel unwell, seek medical advice immediately** **(show the label where possible)**
	If substance is freely available (public product), the following additional **Safety advice is required:**
National Legislation	**Keep locked up and out of reach of children**

16. OTHER INFORMATION

Further information on properties and safe handling of product can be obtained from the Owner:

17. EXCLUSION OF LIABILITY

Information contained in this publication is accurate at the date of publication. The company does not accept liability arising from the use of this information, or the use, application, adaptation or process of any product described herein.

[redacted]

The information contained herein based on the present state of our knowledge
It characterizes the product with regard to the appropriate safety precautions.
It does not represent a guarantee of the properness of the product.

[redacted]