

Safety Data Sheet

HDC Mk II®

Date of Issue : 07.03.2024

Replaces : 08.03.2019

Valid no longer than : 08.03.2029

Conforms to regulation (ED) 1907/2006 (REACH), annex II as amended by Regulation (EU) 453/2010

1. IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Trade Name **SD 27X**

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

Industrial uses: Well Cleaning and Stimulation
Professional uses: Well Cleaning and Stimulation
Uses advised against: Product is not for consumer use

1.3 Details of the supplier of the safety data sheet

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2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Product definition: **Mixture**

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Corr to metals, 1 H290

Acute Tox. 4, H302

Repro Tox Cat 2, H316d

Acute Tox. 4, H332

Skin Corr. 1, H314

Eye Irrit Cat 2 H319

STOT SE 3 H335

This product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

2.2 Label Elements

Hazard pictograms:



Signal word : Danger

Supplementary label:

Hazard Statements

- H290 May be corrosive to metals
- H302 Harmful if swallowed.
- H332 Harmful if inhaled.
- H314 Causes severe skin burns and eye damage
- H319 Causes serious eye irritation
- H316d Suspected of damaging the Unborn child
- H335 May cause respiratory irritation

Precautionary Statements

Prevention :

- P234 – Keep only in original container
- P280 - Wear protective gloves/ Wear eye or face protection/ Wear Protective Clothing.

Response :

- P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
- P303 + P361 + P353 IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water/shower
- P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical attention.

Disposal:

- P501 Dispose of contents and container in accordance with all local, regional, national and international regulations

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Product/ Ingredient Name</u>	<u>Concentration %</u>	<u>Regulation (ED) No. 1272/2008 [CLP]</u>
Diethylenetriamine-penta acetic acid penta potassium salt CAS No. 7216-95-7	2-15%	Acute Tox (inhalation) 4: H332 Reproductive toxicity Cat 2, H361d
Ethylenediamine-tetra acetic acid tetra potassium salt CAS No. 5964-35-2	10-25%	Skin Irrit. 2, H315 Eye Irritation Cat 2, H319
Potassium Hydroxide CAS No. 1310-58-3	2-10%	Corrosive to metals Cat 1, H290 Acute Tox (Oral) Cat 4, H302 Skin Corr (Cat 1A), H314
Potassium carbonate CAS No. 584-08-7	2-10%	Acute tox (Oral) Cat 4, H302 Skin Irrit. (Cat 2), H315 Eye Irrit. (Cat 2), H319 Stot SE (Cat 3), H335
Water CAS No. 7732-18-5	40-60%	Data are not available

Refer to Section 16 for additional wording

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, as PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

Eye Contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Get medical attention

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by

trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband

Skin Contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 15 minutes. Get medical attention.

Ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband

Protection of First Aiders

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most Important symptoms and effects, both acute and delayed

Potential acute health effects

There are no data available on the mixture itself. See Sections 2 and 3 for details.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician:

No data available

4.4 Specific Treatments:

No data available

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing agents : Recommended: Water Spray, alcohol resistant foam, CO₂, powders,.

For safety reasons unsuitable extinguishing agents : Not known

5.2 Special hazards arising from the substance or mixture

Carbon oxides , Nitrogen oxides, Potassium oxides

5.3 Advice for firefighters

Protective equipment - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus if necessary

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Dispose of as hazardous waste

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters

Product / Ingredient Name	Exposure limit values
Potassium Hydroxide	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL 2 mg/m ³

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should

be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the Assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs / DMELs

Product / Ingredient Name	Type	Exposure	Value	Population	Effects
Potassium Gluconate	DNEL	Long Term Dermal	11.9 mg/kg bw/day	Workers	Systemic
	DNEL	Long Term Inhalation	59 mg/m ³	Workers	Systemic
	DNEL	Long Term Oral	5.9 mg/kg bw/day	Consumers	Systemic
	DNEL	Long Term Inhalation	14.6 mg/m ³	Consumers	Systemic
	DNEL	Long Term Dermal	5.9 mg/kg bw/day	Consumers	Systemic
Potassium Hydroxide	DNEL	Long Term Inhalation	1 mg/m ³	Workers	Local
	DNEL	Long Term Inhalation	1 mg/m ³	Consumers	Local
Potassium carbonate	DNEL	Long Term Inhalation	10 mg/m ³	Workers	Local
	DNEL	Long Term Dermal	16 mg/m ³	Workers	Local
	DNEL	Long Term Inhalation	10 mg/m ³	Consumers	Local
	DNEL	Long Term Dermal	8 mg/m ³	Consumers	Local

PNECs

Product / Ingredient Name	Compartment Details	Value	Method Detail
Potassium Gluconate	Fresh Water Marine Water Soil Fresh water sediment Marine water sediment Microorganisms in sewage treatment	0.1 mg/l 0.01 mg/l 0.013 mg/kg/dwt 0.36 mg/kg/dwt 0.36 mg/kg/dwt 6.498 mg/l	

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Form:	Liquid
Colour:	Pale Orange to Amber
Odour:	Not Available
Odour threshold:	Not Available
pH-value:	>12
Change in condition	
Melting point/Melting range:	<0 °C

Initial Boiling point/Boiling range:	>100°C
Flash point:	Not Applicable
Evaporation Rate:	Not Available
Flammability (solid, gaseous)	Not Applicable
Critical values for explosion:	
Lower:	Not Applicable
Upper:	Not Applicable
Vapour pressure at 20°C:	Not Available
Vapour density:	Not Available
Relative Density:	1.28-1.32 g/cm ₃
Solubility in / Miscibility with Water:	Miscibility with Water
Partition coefficient (n-octanol/water):	Not Available
Auto Ignition temperature:	Not Available
Decomposition Temperature:	Not Available
Viscosity:	Not Available
Explosive Properties:	Not Available
Oxidising Properties:	Not Available

9.2 Other information

No additional information

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents, acids.

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire - see Section 5

11. TOXICOLOGICAL

11.1 Information on toxicological effects

There are no data available on the mixture itself. See Sections 2 and 3 for details.

Acute Toxicity

Product / Ingredient Name	Result	Species	Dose	Exposure
Potassium Gluconate	LD50 Oral (OECD 401)	Rat (male and female)	6060 mg/kg	
Potassium Hydroxide	LD50 Oral	Rat	333 mg/kg	
Potassium carbonate	LD50 Oral	Rat	1870 mg/kg	

Irritation/Corrosion

No data available

Respiratory

No data available

Sensitisation

No data available

Mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity (single exposure)

Product/ingredient Name	Category	Route of exposure	Target Organs
Potassium Carbonate	Category 3	Not Applicable	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available

Aspiration Hazard

Not available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

There is no data available on the mixture itself

Do not allow to enter drains or watercourses

Product / Ingredient Name	Result	Species	Exposure
Potassium Hydroxide	Acute LC50 80 mg/l	Fish	96 hrs
Potassium carbonate	LC50 <510 mg/l	Pimephales promelas (fathead minnow)	96 hrs

Conclusion / Summary - Not available

12.2 Persistence and degradability

Not Known

12.3 Bioaccumulative potential

Product/Ingredient Name	Log P _{ow}	BCF	Potential
Potassium Hydroxide	-3.88	-	Low

12.4 Mobility in soil

Data not available

12.5 Results of PBT and VpvB assessment

Data not available

12.6 Other adverse effect

No known significant effects or critical hazards

13. DISPOSAL CONSIDERATION

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product

European Waste catalogue (EWC)

11 02 07* other wastes containing Hazardous substances

14. TRANSPORT INFORMATION

	ADR / RID	IMDG	IATA
14.1 UN Number	1760	1760	1760
14.2 Proper Shipping Name	Corrosive Liquid ,N.O.S. (contains Potassium Hydroxide)	Corrosive Liquid ,N.O.S. (contains Potassium Hydroxide)	Corrosive Liquid ,N.O.S. (contains Potassium Hydroxide)
14.3 Transport Class(es)	8	8	8
14.4 Packing Group	II	II	II
14.5 Environmental Hazards	No	No	No
14.6 Tunnel Restriction Code	(E)	(E)	(E)

Marine pollutant: No

15. REGULATORY INFORMATION

The following regulatory information is based on the potassium hydroxide in its pure form not the diluted product mixture:

International Inventories

TSCA (USA)	Listed
DSL (Canada)	Listed
NDSL (Canada)	Not Listed
EINECS (EU)	215-181-3
ELINCS (EU)	Not Listed
PICCS (Philippines)	Listed
ENCS (Japan)	Listed
AICS (Australia)	Listed
IECSC (China)	Listed
KECL (Korea)	Listed
WHMIS (Canada) Status	Classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.
WHMIS (Canada) Hazard Classification	E Corrosive material, D1B Toxic materials.
SARA 311-312 Hazard Classification(s)	Acute health hazard.
U.S. EPCRA (SARA Title III) Section 313	No Data Available
OSHA	No Data Available
U.S. Dept. of Homeland Security	Does not contain any DHS chemicals.
Dept. of Transportation	No RQ, not a marine pollutant.

Legend:

TSCA (USA) — Toxic Substances Control Act
DSL (Canada) — Domestic Substance List
NDSL (Canada) — Non-Domestic Substance List
EINECS (EU) — European Inventory of Existing Commercial Chemical Substances
ELINCS (EU) — European List of Notified Chemical Substances
PICCS (Philippines) — Philippines Inventory of Chemicals and Chemical Substances
ENCS (Japan) — Japanese Existing and New Chemical Substances
AICS (Australia) — Australian Inventory of Chemical Substances
IECSC (China) — Inventory of Existing Chemical Substances in China
KECL (Korea) — Korean Existing Chemicals List
WHMIS (Canada) — Workplace Hazardous Materials Information System
SARA — Superfund Amendments and Reauthorization Act
U.S. EPCRA — United States Emergency Planning and Community Right-to-Know Act
OSHA — Occupational Safety and Health Administration

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

The information contained in this safety data sheet does not constitute the user's own assessment of the workplace risks, as required by other health and safety legislation.

The provisions of the national health and safety at work regulations apply to the use of this product at work.

HS Code : 38 24 99 45

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

16. OTHER INFORMATION

Indicates information that has changed from previously issued version.

Abbreviations and acronyms:

ATE	= Acute Toxicity Estimate
CLP	= Classification, Labelling and Packaging Regulation [Regulation (ED) No. 1272/2008]
DMEL	= Derived Minimal Effect Level
DNEL	= Derived No Effect Level
EUH statement	= CLP specific Hazard statement
PBT	= Persistent, Bioaccumulative and Toxic
PNEC	= Predicted No Effect Concentration
RRN	= REACH Registration Number
vPvB	= Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to regulation (EC) 1271/2008 [CKO/GHS]

Classification	Justification
Corr to metals 1, H290	-
Acute Tox. 4, H302	-
Acute Tox. 4, H332	-
Skin Corr. 1a, H314	
Eye Irrit Cat 2 H 319	
Reprotoxic Cat 2, H361d	
STOT SE3 H335	

Full text of abbreviated H Statements:

- H290 May be corrosive to metals
- H302 Harmful if swallowed
- H332 Harmful if inhaled.
- H314 Causes severe skin burns and eye damage.
- H316d Suspected of damaging the Unborn child
- H290 May be corrosive to metals
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H335 May cause respiratory irritation

Full text of classifications [CLP/GHS]

Corr Metals , 1 H290
Acute Tox. 4, H302
Acute Tox. 4, H332
Skin Corr 1a, H314
Eye Irrit Cat 2 , H319
Reprotoxic Cat 2, H361d
STOT SE3 H335

Corrosive to metals , - Category 1
ACUTE TOXICITY: ORAL - Category 4
ACUTE TOXICITY: INHALATION - Category 4
SKIN CORROSION IRRITATION – Category 1a
SERIOUS EYE DAMAGE/EYE IRRITATION – Category 2
REPRODUCTIVE HAZARD - Category 2
SINGLE TARGET ORGANO TOXICITY –Single exposure
Cat 3 Respiratory tract Irritation

Note

The information contained in the Safety Data Sheet is based on our data available on the date of publication. The information is intended to aid the user in controlling the handling risks; it is not to be construed as a warranty or specification of the product quality.

The information may not be or may not altogether be applicable to combinations of the product with other substances or to particular applications.

The user is responsible for ensuring that appropriate precautions are taken and for satisfying themselves that the data are suitable and sufficient for the product's intended purpose. In case of any unclarity we advise consulting the supplier or an expert.