SAFETY DATA SHEET

Rhodium concentrate, black JE23-1

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name:	Rhodium concentrate, black JE23-1
Product no.:	RH10125
Unique formula identifier (UFI):	PGM1-JGPR-G9EQ-QCUT

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

Relevant identified uses of the substance or mixture:	Liquid for galvanic processes Restricted to professional users.
Uses advised against :	None known.

1.3. Details of the supplier of the safety data sheet

Company and address:	**Aktiv Guld A/S** Vallensbækvej 46 2625 Vallensbæk Denmark +45 43 66 20 00 https://www.aktivguld.com/
E-mail:	ag@aktivguld.com
Revision:	03/09/2025
SDS Version:	9.0
Date of previous version:	08/08/2025 (9.0)

1.4. Emergency telephone number

Contact the poison hotline: +45 82 12 12 12 (24 hour service)
See section 4 “First aid measures”.

SECTION 2: HAZARDS IDENTIFICATION

Classified according to Regulation (EC) No. 1272/2008 (CLP).

2.1. Classification of the substance or mixture

Met. Corr. 1; H290, May be corrosive to metals.
Skin Corr. 1A; H314, Causes severe skin burns and eye damage.
Eye Dam. 1; H318, Causes serious eye damage.

Muta. 2; H341, Suspected of causing genetic defects.
Aquatic Chronic 3; H412, Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazard pictogram(s):

Signal word: Danger

Hazard statement(s):
May be corrosive to metals. (H290)
Causes severe skin burns and eye damage. (H314)
Suspected of causing genetic defects. (H341)
Harmful to aquatic life with long lasting effects. (H412)

Precautionary statement(s):

General: Not applicable.

Prevention:
Do not breathe vapour/mist. (P260)
Wear face protection/protective gloves/protective clothing. (P280)

Response:
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water . (P303+P361+P353)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)

Storage: Store in a container with a resistant inner liner. (P406)

Disposal:
Dispose of contents/container in accordance with local regulation.
(P501)

Hazardous substances:
sulphuric acid ... %
hydrogen chloride
Dirhodium trisulphate

Additional labelling:

UFI: PGM1-JGPR-G9EQ-QCUT

2.3. Other hazards

Additional warnings:
This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.
This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2023/707.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable. This product is a mixture.

3.2. Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
sulphuric acid ... %	CAS No.: 7664-93-9 EC No.: 231-639-5 REACH: 01-2119458838-20-XXXX Index No.: 016-020-00-8	1-5%	Skin Corr. 1A, H314 (SCL: 15.00 %) Skin Irrit. 2, H315 (SCL: 5.00 %) Eye Irrit. 2, H319 (SCL: 5.00 %)	[1]
edetic acid;(EDTA)	CAS No.: 60-00-4 EC No.: 200-449-4 REACH: 01-2119486399-18-XXXX Index No.: 607-429-00-8	1-5%	Eye Irrit. 2, H319	
hydrogen chloride	CAS No.: 7647-01-0 EC No.: 231-595-7 REACH: 01-2119484862-27-XXXX Index No.: 017-002-00-2	1-5%	Skin Corr. 1A, H314 Acute Tox. 3, H331	[1]
Dirhodium trisulphate	CAS No.: 10489-46-0 EC No.: 234-014-5 REACH: 01-2120760608-47-XXXX Index No.:	2-2,5%	EUH071 Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318 Muta. 2, H341 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

[1] European occupational exposure limit.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information: In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never

	give an unconscious person water or other drink.
Inhalation:	Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.
Skin contact:	Flush exposed area with water for a long time - at least 30 minutes. It may be necessary to flush for several hours. Use a comfortable water temperature (20-30 °C). Contact Poison Information/doctor/hospital for further advice on follow-up and treatment. Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners. If skin irritation occurs: Get medical advice/attention.
Eye contact:	If in eyes: Flush eyes with plenty of water or salt water (20-30 °C) for at least 30 minutes and continue until irritation stops. Remove contact lenses. Make sure you flush under the upper and lower eyelids. Seek medical assistance immediately and continue flushing during transport.
Ingestion:	In the case of ingestion, contact a doctor immediately. If the person is conscious, give them water. DO NOT try to induce vomiting unless this is recommended by a doctor. Hold head facing down to prevent vomit from returning to the mouth and throat. Prevent shock by keeping the injured person warm and calm. Initiate immediate resuscitation if breathing stops. If unconscious, roll the injured person into recovery position. Call an ambulance.
Burns:	Not applicable.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms of inadvertent contact with products containing sulfuric acid are: extreme destruction of tissues of the mucous membranes and upper respiratory tract, eyes, and skin. Spasm, inflammation and edema of the larynx, Spasm, inflammation and edema of the bronchi.
Pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, Shortness of breath. Headache, Nausea, Vomiting. Effects may be delayed.
Tissue-damaging effects: This product contains substances with skin corrosive properties. Inhaled vapour or aerosols may produce adverse effects to lungs, irritations and burns in the respiratory organs as well as coughing. Dermal contact and contact with the eye cause irreversible effects.

4.3. Indication of any immediate medical attention and special treatment needed

IF exposed or concerned:

Get immediate medical advice/attention.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Not applicable.

5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health.
Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.
If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:
Halogenated compounds
Sulphur oxides
Nitrogen oxides (NO_x)
Carbon oxides (CO / CO2)

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the chemical emergency services on 72 85 20 00 (24 h service) in order to obtain further advice.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid direct contact with spilled substances.
Ensure adequate ventilation, especially in confined areas.
Contaminated areas may be slippery.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.
Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 “Disposal considerations” on handling of waste.
See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

It is recommended to install waste collection trays in order to prevent emissions to the waste water system and surrounding environment.
Avoid direct contact with the product.
Avoid contact during pregnancy and while nursing.
Smoking, drinking and consumption of food is not allowed in the work area.
See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Store in a container with a resistant inner liner.

Recommended storage material:	Always store in containers of the same material as the original container.
Storage conditions:	No specific requirements.
Incompatible materials:	Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

sulphuric acid ... %
Long term exposure limit (8 hours) (mg/m^3): 0,05
Short term exposure limit (15 minutes) (mg/m^3): 0,1
Annotations:
E = Substance has an EC limit.

hydrogen chloride
Short term exposure limit (15 minutes) (mg/m^3): 8
Short term exposure limit (15 minutes) (ppm): 5
Annotations:
E = Substance has an EC limit.

Statutory order 1619 on exposure limits for substances and mixtures (19/12/2024)

DNEL

edetic acid;(EDTA)

Duration:	Route of exposure:	DNEL:

Long term – Local effects - General population	Inhalation	600 µg/m³
Long term – Local effects - Workers	Inhalation	1.5 mg/m³
Long term – Systemic effects - Workers	Inhalation	1.5 mg/m³
Short term – Local effects - General population	Inhalation	1.2 mg/m³
Short term – Local effects - Workers	Inhalation	3 mg/m³
Short term – Systemic effects - Workers	Inhalation	3 mg/m³
Long term – Systemic effects - General population	Oral	25 mg/kg bw/day

hydrogen chloride

Duration:	**Route of exposure:**	**DNEL:**
Long term – Local effects - General population	Inhalation	8 mg/m³
Long term – Local effects - Workers	Inhalation	8 mg/m³
Short term – Local effects - General population	Inhalation	15 mg/m³
Short term – Local effects - Workers	Inhalation	15 mg/m³

sulphuric acid ... %

Duration:	**Route of exposure:**	**DNEL:**
Long term – Local effects - Workers	Inhalation	50 µg/m³
Short term – Local effects - Workers	Inhalation	100 µg/m³

PNEC

Dirhodium trisulphate

Route of exposure:	**Duration of Exposure:**	**PNEC:**
Freshwater		290 ng/L
Freshwater sediment		4.37 mg/kg
Marine water		29 ng/L
Marine water sediment		437 µg/kg
Sewage treatment plant		14.6 mg/L
Soil		1.1 µg/kg

edetic acid;(EDTA)

Route of exposure:	**Duration of Exposure:**	**PNEC:**
Freshwater		2.17 mg/L
Marine water		217 µg/L
Sewage treatment plant		50 mg/L
Soil		1.11 mg/kg

8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

General recommendations:	Smoking, drinking and consumption of food is not allowed in the work area.
Exposure scenarios:	There are no exposure scenarios implemented for this product.
Exposure limits:	Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.
Appropriate technical measures:	Do not recirculate outlet air that contain the substances. The formation of vapours must be kept at a minimum and below current limit values (see above). Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure eyewash and emergency showers are clearly marked. Ensure that eyewash stations and safety showers are located within easy reach. Apply standard precautions during use of the product. Avoid inhalation of vapours.
Hygiene measures:	In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Pay special attention to hands, forearms and face.
Measures to avoid environmental exposure:	Keep damming materials near the workplace. If possible, collect spillage during work.

Individual protection measures, such as personal protective equipment

Generally: Use only CE marked protective equipment.

Respiratory Equipment:

Type	Class	Colour	Standards	
Respiratory protection is not needed in the event of adequate ventilation.				

Skin protection:

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

Hand protection:

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0,3	> 480	EN374-2, EN16523-1, EN388	

Eye protection:

Type	Standards	
Face shield alternatively safety glasses with side shields.	EN166	

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Deep brown
Odour / Odour threshold:	Characteristic
pH:	No data available.
Density (g/cm^3):	1.12 (20 °C)
Kinematic viscosity:	No data available.
Particle characteristics:	Does not apply to liquids.

Phase changes

Melting point/Freezing point (°C):	No data available.
Softening point/range (°C):	Does not apply to liquids.
Boiling point (°C):	110
Vapour pressure:	No data available.
Relative vapour density:	No data available.
Decomposition temperature (°C):	No data available.

Data on fire and explosion hazards

Flash point (°C):	No data available.
Flammability (°C):	No data available.
Auto-ignition temperature (°C):	No data available.
Lower and upper explosion limit (% v/v):	No data available.

Solubility

Solubility in water:	Soluble

n-octanol/water coefficient (LogKow):	No data available.
Solubility in fat (g/L):	No data available.

9.2. Other information

Other physical and chemical parameters:	No data available.
Oxidizing properties:	No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No data available.

10.2. Chemical stability
The product is stable under the conditions, noted in section 7 “Handling and storage”.

10.3. Possibility of hazardous reactions
None known.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. Hazardous decomposition products
Thermal decomposition may produce corrosive vapours.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity
Based on available data, the classification criteria are not met.

Skin corrosion/irritation
Causes severe skin burns and eye damage.

Serious eye damage/irritation
Causes serious eye damage.

Respiratory sensitisation
Based on available data, the classification criteria are not met.

Skin sensitisation
Based on available data, the classification criteria are not met.

Germ cell mutagenicity
Suspected of causing genetic defects.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Long term effects

Tissue-damaging effects: This product contains substances with skin corrosive properties. Inhaled vapour or aerosols may produce adverse effects to lungs, irritations and burns in the respiratory organs as well as coughing. Dermal contact and contact with the eye cause irreversible effects.

Endocrine disrupting properties

This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

Other information

sulphuric acid ... % has been classified by IARC as a group 1 carcinogen.
hydrogen chloride has been classified by IARC as a group 3 carcinogen.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

Based on available data, the classification criteria are not met.

12.3. Bioaccumulative potential

Based on available data, the classification criteria are not met.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

12.7. Other adverse effects

This product contains substances that are toxic to the environment. May result in adverse effects to aquatic organisms.
This product contains substances, which may cause adverse long-term effects to the aquatic environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product is covered by the regulations on hazardous waste. (*)
HP 6 - Acute toxicity
HP 8 – Corrosive
HP 11 – Mutagenic
Dispose of contents/container to an approved waste disposal plant.
Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

EWC code:

11
WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY
11 01
Wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)
11 01 98*
Other wastes containing dangerous substances

Specific labelling

Not applicable.

Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: TRANSPORT INFORMATION

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
ADR	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid ... %, Dirhodium trisulphate)	Transport hazard class: 8 Label: 8 Classification code: C1 	II	No	Limited quantities: 1 L Tunnel restriction code: (E) See below for additiona

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
						l information.
IMDG	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid ... %, Dirhodium trisulphate)	Transport hazard class: 8 Label: 8 Classification code: C1 	II	No	Limited quantities: 1 L EmS: F-A S-B See below for additional information.
IATA	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid ... %, Dirhodium trisulphate)	Transport hazard class: 8 Label: 8 Classification code: C1 	II	No	See below for additional information.

* Packing group

** Environmental hazards

Additional information

This product is within scope of the regulations of transport of dangerous goods.
ADR / See Table A, section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.
IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.
IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

14.6. Special precautions for user

Not applicable.

14.7. Maritime transport in bulk according to IMO instruments

No data available.

SECTION 15: REGULATORY INFORMATION

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

Restrictions for application: Restricted to professional users.

	People under the age of 18 shall not be exposed to this product. Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered.
Demands for specific education:	No specific requirements.
SEVESO - Categories / dangerous substances:	hydrogen chloride
Regulation on drug precursors:	sulphuric acid ... % is included (Category 3) hydrogen chloride is included (Category 3)
Regulation on explosives precursors:	sulphuric acid ... % (Annex I)
Additional information:	Not applicable.
Sources:	The Danish Working Environment Authority's executive order no. 1049 of 30 May 2021 on young people's work. Based on Council Directive 94/33 / EC of 22 June 1994 on the protection of young people at work. Pregnant workers and workers who are breastfeeding (AT Guide A.1.8-6, amended 2024). Executive Order no. 372 of 25 April 2016 on control of the risk of major accidents with dangerous substances. Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste. Council Regulation (EC) No 273/2004 on drug precursors. Council Regulation (EC) No 2019/1148 on explosives precursors. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment

No

SECTION 16: OTHER INFORMATION

Full text of H-phrases as mentioned in section 3

EUH071, Corrosive to the respiratory tract.
H290, May be corrosive to metals.
H314, Causes severe skin burns and eye damage.
H315, Causes skin irritation.
H318, Causes serious eye damage.
H319, Causes serious eye irritation.
H331, Toxic if inhaled.
H341, Suspected of causing genetic defects.
H400, Very toxic to aquatic life.
H410, Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CE = Conformité Européenne (European conformity)
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EuPCS = European Product Categorisation System
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
GWP = Global warming potential
IARC = International Agency for Research on Cancer (IARC)
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SCL = A specific concentration limit
SVHC = Substances of Very High Concern

STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Additional information

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP).
The classification of the substance/mixture in regard of environmental hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP).

The safety data sheet is validated by

Aktiv Guld A/S

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.
It is recommended to hand over this safety data sheet to the actual user of the product.
Information in this safety data sheet cannot be used as a product specification.
Country-language: DK-en