

SAFETY DATA SHEET

1. Identification of the substance or mixture and of the supplier

- A. GHS product identifier Mirinae[®] A-6400K Splendor Copper
- B. Recommended use of the chemical and restrictions on use
Recommended use Cosmetic
Restrictions on use Not available
- C. Manufacturers
Company name CQV Co., Ltd.
Address 144, Seongjung-Ro, Jincheon-Eup, Jincheon-Gun, Chungbuk-Do, Korea
Emergency phone number 82-43-531-2500
Respondent Byung-Ki Choi
Fax 82-43-536-0314

2. Hazards identification

- A. GHS classification of the substance/mixture
Not classified
- B. GHS label elements, including precautionary statements
Pictogram and symbol : Not applicable
Signal word : Not applicable
Hazard statements : Not applicable
Precautionary statements
Precaution : Not applicable
Treatment : Not applicable
Storage : Not applicable
Disposal : Not applicable
- C. Other hazard information not included in hazard classification (NFPA)
Health 0
Flammability Not available
Reactivity Not available

3. Composition/information on ingredients

Chemical Name (INCI Name)	CAS number	EC number	Content (%)
Alumina	1344-28-1	215-691-6	52 - 62
Iron Oxides (CI 77491)	1309-37-1	215-168-2	38 - 48

4. First aid measures

- A. Eye contact
- In case of contact with substance, immediately flush eyes with running water at least 20 minutes.
- B. Skin contact
- In case of contact with substance, immediately flush skin with running water at least 20 minutes.
- Remove and isolate contaminated clothing and shoes.

- Wash contaminated clothing and shoes before reuse.
- Get immediate medical advice/attention.

C. Inhalation

- Specific medical treatment is urgent.
- Move victim to fresh air.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.

D. Ingestion

- Do not let him/her eat anything, if unconscious.
- Get immediate medical advice/attention.

E. Indication of immediate medical attention and notes for physician

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. Fire fighting measures

A. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media: Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO₂
- Unsuitable extinguishing media: High pressure water streams

B. Specific hazards arising from the chemical

- If inhaled, may be harmful.

C. Special protective equipment and precautions for fire-fighters

- Dike fire-control water for later disposal; do not scatter the material.
- Move containers from fire area if you can do it without risk.
- Fire involving Tanks; Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks; Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Fire involving Tanks; Always stay away from tanks engulfed in fire.

6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures

- Eliminate all ignition sources.
- Stop leak if you can do it without risk.
- Please note that materials and conditions to avoid.
- Ventilate the area.
- Do not touch or walk through spilled material.
- Prevent dust cloud.

B. Environmental precautions and protective procedures

- Prevent entry into waterways, sewers, basements or confined areas.

C. The methods of purification and removal

- Small Spill; Flush area with flooding quantities of water. And take up with sand or other non-combustible absorbent material and place into containers for later disposal.
- Large Spill; Dike far ahead of liquid spill for later disposal.
- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

7. Handling and storage

A. Precautions for safe handling

- Please note that materials and conditions to avoid.
- Wash thoroughly after handling.
- Please work with reference to engineering controls and personal protective equipment.
- Be careful to high temperature.

B. Conditions for safe storage

- Store in a closed container.
- Store in cool and dry place.

8. Exposure controls/personal protection

A. Occupational Exposure limits

Korea regulation

Alumina TWA = 10 mg/m³

Iron Oxides of oxygen (< 19.5%), wear the supplied-air respirator or self-contained breathing apparatus. oxygen

Eye protection

- Wear facepiece with goggles to protect.
- An eye wash unit and safety shower station should be available nearby work place.
- Wear breathable safety goggles to protect from particulate material causing eye irritation or other disorder.
- An eye wash unit and safety shower station should be available nearby work place.

Hand protection

- Wear chemical resistant gloves.
- Wear appropriate protective gloves by considering physical and chemical properties of chemicals.

Body protection

- Wear appropriate protective chemical resistant clothing.
- Wear appropriate protective clothing by considering physical and chemical properties of chemicals.

9. Physical and chemical properties

A. Appearance

Description Powder

Color Lustrous Brown

B. Odor No odor

C. Odor threshold Not available

D. pH 7 - 11

E. Melting point/freezing point Not available

F. Initial boiling point and boiling range Not available

G. Flash point Not available

H. Evaporation rate Not available

I. Flammability (solid, gas) Not applicable

J. Upper/lower flammability or explosive limits Not available

K. Vapor pressure Not available

L. Solubility (ies) Not available

M. Vapor density Not available

N. Specific gravity 3.9 - 4.3 g/cm³

O. Partition coefficient: n-octanol/water Not available

P. Auto ignition temperature Not available

- Q. **Decomposition temperature** Not available
R. **Viscosity** Not available
S. **Molecular weight** Not available

10. Stability and reactivity

A. Chemical stability and Possibility of hazardous reactions:

- If inhaled, may be harmful.

B. Conditions to avoid:

- Heat, sparks or flames

C. Incompatible materials:

- Combustibles

D. Hazardous decomposition products:

- Not available

11. Toxicological information

A. Information of Health Hazardous

Acute toxicity

Oral : Not classified

- **Alumina** : Rat LD₅₀ > 2,000 mg/kg (OECD Guideline 420)
- **Iron Oxides** : Rat LD₅₀ > 5,000 mg/kg (EU Method B.1)

Dermal : Not available

Inhalation : Not classified

- **Alumina** : Rat LC₅₀ > 2.3 mg/L/4hr
- **Iron Oxides** : Rat LD₅₀ = mg/L Rat = 8.5 mg/kg bw/day

Skin corrosion/ irritation : Not classified

- **Alumina** : In the skin irritation test using rabbit, skin irritation was not observed.(OECD Guideline 404)

- **Iron Oxides** : As a result of skin irritation test using rabbit, skin irritation was not observed. (OECD TG 404, GLP)

Serious eye damage/ irritation : Not classified

- **Alumina** : The slight erythema was reversible, resolving by 48 hours post administration of the test substance. The scores observed for conjunctival erythema would not lead to a classification under EU-CLP (Regulation (EC) 1272/2008)(OECD Guideline 405).

- **Iron Oxides** : As a result of eye irritation test using rabbit, eye irritation was not observed. (OECD TG 405, GLP)

Respiratory sensitization : Not available

Skin sensitization : Not classified

- **Alumina** : In the skin sensitisation test using guinea pig, skin sensitisation was not observed.

- **Iron Oxides** : As a result of skin sensitization test using guinea pig, it does not cause skin sensitization.

Carcinogenicity : Not classified

Mutagenicity : Not classified

- **Alumina** : In the mammalian erythrocyte micronucleus test, the results were positive for the nano-sized materials(below 40nm) with evidence of a positive dose-response relationship for MN(OECD Guideline 75). Positive reactions were observed in Mammalian Erythrocyte Micronucleus Test(OECD Guideline 474, GLP).

- **Iron Oxides** : Negative reactions were observed in both in vitro (mammalian

chromosome aberration test (OECD TG 473, GLP, read across), Ames test (read across), mammalian cell gene mutation assay (OECD TG 476, GLP, read across) and in vivo comet assay.

Reproductive toxicity : Not available

Specific target organ toxicity (single exposure) : Not available

Specific target organ toxicity (repeat exposure) : Not classified

– **Alumina** : In the inhalation toxicity test(90 day) with rats, NOAEC = 70 mg/m³.

– **Iron Oxides** : No adverse effects were observed in sub-chronic inhalation toxicity studies for 90 days with rats. (NOAEC = 4.7 mg/m³) (OECD TG 413)

Aspiration Hazard : Not available

12. Ecological information

A. Ecological toxicity

– Acute toxicity : Not classified

– Chronic toxicity : Not classified

Fish

– **Alumina** : 96hr-NOEC(Salmo trutta) > 0.072 mg/L (OECD Guideline 203)

– **Iron Oxides** : 96hr-LC₀ (*Brachydanio rerio*) ≥ 50000 mg/L

crustacean

– **Alumina** : 48hr-NOEC(Daphnia magna) > 0.071 mg/L

– **Iron Oxides** : 48hr-EC₅₀ (*Daphnia magna*) > 100 mg/L (OECD TG 202, GLP)

Algae

– **Alumina** : 72h-NOEC(Pseudokirchneriella subcapitata) >= 0.052 mg/L

B. Persistence and degradability

Persistence

– **Alumina** : Low persistency (log Kow is less than 4 estimated.) (Log Kow = -0.83) (estimated)

– **Iron Oxides** : Low persistency (log Kow is less than 4 estimated.) (Log Kow = 0.97) (estimated)

Degradability : Not available

C. Bioaccumulative potential

Bioaccumulation

– **Alumina** : Bioaccumulation is expected to be low according to the BCF < 500 (BCF = 3.162) (estimated)

– **Iron Oxides** : Bioaccumulation is expected to be low according to the BCF < 500 (BCF = 3.162) (estimated)

Biodegradation

– **Alumina** : Not readily biodegradable(estimated)

– **Iron Oxides** : not readily biodegradable (estimated)

D. Mobility in soil

– **Alumina** : Low potency of mobility to soil. (Koc = 0.1902) (estimated)

– **Iron Oxides** : Low potency of mobility to soil. (Koc = 6.942) (estimated)

E. Other hazardous effect : Not available

F. HAZARDOUS TO THE OZONE LAYER : Not classified

13. Disposal considerations

A. Disposal method

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

B. Disposal precaution

Consider the required attentions in accordance with waste treatment management regulation.

14. Transport information

- A. UN Number Not applicable
- B. UN Proper shipping name Not applicable
- C. Transport Hazard class Not applicable
- D. Packing group Not applicable
- E. Marine pollutant Not applicable
- F. IMDG/IATA/ICAO Not applicable
- G. Special precautions
 - in case of fire Not applicable
 - in case of leakage Not applicable

15. Regulatory information

- A. Occupational Safety and Health Regulation
 - Alumina : Administration subject listed
 - Alumina : Occupational exposure limits listed
 - Alumina : Work environment monitoring listed (6 months)
 - Alumina : Health examination agent (12 months)
 - Iron Oxides : Administration subject listed
 - Iron Oxides : Occupational exposure limits listed
 - Iron Oxides : Work environment monitoring listed (6 months)
 - Iron Oxides : Health examination agent (12 months)
- B. Chemical Control Act
 - Alumina : Existing Chemical Substance (KE-01012)
 - Iron Oxides : Existing Chemical Substance (KE-10897)
- C. Dangerous Material Safety Management Regulation
 - Alumina : Dangerous Material Safety Management Regulation Non-dangerous goods
 - Iron Oxides : Dangerous Material Safety Management Regulation
- D. Wastes Control Act Not regulated
- E. Other regulation (internal and external)
 - Internal information
 - Persistent Organic Pollutants Acts Not regulated
 - External information
 - EU classification(classification)
 - Alumina : Classification Not classified
 - Iron Oxides : Classification Not classified
 - EU classification(risk phrases)
 - Alumina : Hazard statements Not applicable
 - Iron Oxides : Hazard statements Not applicable
 - EU classification(safety phrases)
 - Alumina : Precautionary statements Not applicable
 - Iron Oxides : Precautionary statements Not applicable
 - EU SVHC list Not regulated
 - EU Authorisation List Not regulated
 - EU Restriction list Not regulated
 - U.S.A management information (OSHA Regulation) Not regulated

U.S.A management information (CERCLA Regulation) Not regulated
U.S.A management information (EPCRA 302 Regulation) Not regulated
U.S.A management information (EPCRA 304 Regulation) Not regulated
U.S.A management information (EPCRA 313 Regulation) Not regulated
Substance of Roterdame Protocol Not regulated
Substance of Stockholme Protocol Not regulated
Substance of Montreal Protocol Not regulated

Foreign Inventory Status

Alumina

U.S.A management information Section 8(b) Inventory (TSCA): Present
Japan management information Existing and New Chemical Substances (ENCS): (1)–23
China management information Inventory of Existing Chemical Substances (IECSC): Present 37546
Canada management information Domestic Substances List (DSL): Present
Australia management information Inventory of Chemical Substances (AICS): Present
New Zealand management information Inventory of Chemicals (NZIoC): May be used as a single component chemical under an appropriate group standard
Philippines management information Inventory of Chemicals and Chemical Substances (PICCS): Present
Japan management information ISHL Harmful Substances Whose Names Are to be Indicated on the Label: ≥ 1 % weight
Japan management information ISHL Notifiable Substances: ≥ 1 % weight

Iron Oxides

U.S.A management information Section 8(b) Inventory (TSCA): Present
Japan management information Existing and New Chemical Substances (ENCS): (5)–5188, (1)–357
Japan management information ISHL Harmful Substances Whose Names Are to be Indicated on the Label: ≥ 1 % weight
Japan management information ISHL Notifiable Substances: ≥ 1 % weight
China management information Inventory of Existing Chemical Substances (IECSC): Present 29712
Canada management information Domestic Substances List (DSL): Present
Australia management information Inventory of Chemical Substances (AICS): Present
New Zealand management information Inventory of Chemicals (NZIoC): May be used as a single component chemical under an appropriate group standard.
Philippines management information Inventory of Chemicals and Chemical Substances (PICCS): Present

16. Other information

A. Information source and references

Emergency Response Guidebook 2008;
http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/erg2008_eng.pdf
U.S. National library of Medicine(NLM) ChemIDplus; <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM>
Korea Occupational Health & Safety Agency; <http://www.kosha.net>
EPISUITE v4.11; <http://www.epa.gov/opt/exposure/pubs/episuitedl.html>

Ministry of Public Safety and Security–Korea dangerous material inventory management system; <http://hazmat.mpss.kfi.or.kr/index.do>

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans;
<http://monographs.iarc.fr>

TOMES–LOLI[®]; <http://www.rightanswerknowledge.com/loginRA.asp>

National Chemicals Information System; <http://ncis.nier.go.kr/ncis/>

Waste Control Act enforcement regulation attached [1]

REACH information on registered substances; <https://echa.europa.eu/information-on-chemicals/registered-substances>

American Conference of Governmental Industrial Hygienists TLVs and BEIs.

NIOSH Pocket Guide; <http://www.cdc.gov/niosh/npg/npgdcas.html>

National Toxicology Program; <http://ntp.niehs.nih.gov/results/dbsearch/>

International Uniform Chemical Information Database(IUCLID)

Korea Maritime Dangerous Goods Inspection Center; <http://www.komdi.or.kr/index.html>

EU CLP; <https://echa.europa.eu/information-on-chemicals/cl-inventory-database>

B. Issuing date 15-04-2015

C. Revision number and date

revision number 4

date of the latest revision 01-04-2024

D. Others

- Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.
- The product must not be used for any purposes other than those specified under heading 1 without first obtaining written handling instructions.
- It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.
- The information given on this safety data sheet must be regarded as a description of the safety requirements relating to our product and not a guarantee of its properties.