

POTASSIUM BROMIDE

GHS Safety Data Sheet

Version No : 2.0

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

POTASSIUM BROMIDE

OTHER NAMES

KBr, BrK, "bromide, potassium salt"

PRODUCT USE

Photographic gelatine bromide paper and plates, process engraving, lithography, special soaps, spectroscopy, infrared transmission, laboratory reagent and therapeutic agent.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

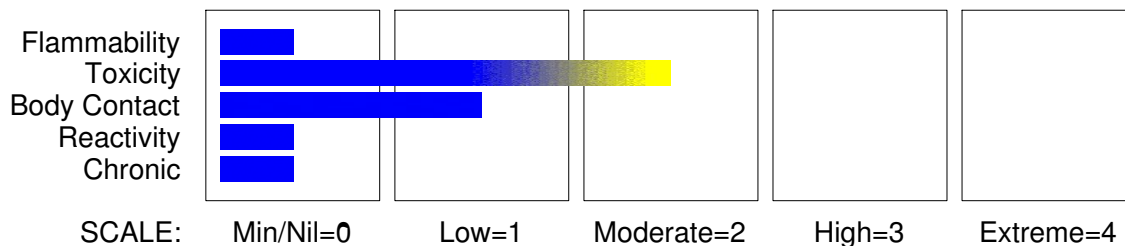
technical@sdfine.com

Telephone: 91- 22- 24959898

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HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Oral) Category 5

EMERGENCY OVERVIEW

HAZARD

WARNING

Determined by using GHS criteria:

H303

May be harmful if swallowed

continued...

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Section 2 - HAZARDS IDENTIFICATION

PRECAUTIONARY STATEMENTS

Response

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
potassium bromide	7758-02-3	>98

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.

· For advice, contact a Poisons Information Centre or a doctor.

Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

· Induce vomiting with fingers down the back of the of the throat, ONLY IF CONSCIOUS.

· Lean patient forward or place on left side (head-down position if possible) to maintain open airway and prevent aspiration.

NOTE: Wear a protective glove when inducing vomiting by mechanical means.

· In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.

· If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist.

· If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS.

EYE

If this product comes in contact with the eyes:

· Wash out immediately with fresh running water.

· Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

· If pain persists or recurs seek medical attention.

· Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:

· Immediately remove all contaminated clothing, including footwear.

· Flush skin and hair with running water (and soap if available).

· Seek medical attention in event of irritation.

INHALED

· If dust is inhaled, remove from contaminated area.

· Encourage patient to blow nose to ensure clear passage of breathing.

· If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN

Treatment of intoxication by the bromide ion includes hydration, the maintenance of mild water diuresis, and sodium, or even better, ammonium chloride (10-15 gm. daily in divided doses) with an osmotic or high ceiling diuretic. Haemodialysis may be of value. [GOSSELIN, SMITH, HODGE: Clinical Toxicology of Commercial Products]

In acute poisoning the stomach should be emptied by aspiration and lavage and sodium

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Section 4 - FIRST AID MEASURES

chloride given by intravenous infusion. Dextrose has also been administered and frusemide may be given to aid diuresis. In severe cases of bromide intoxication or when usual treatments cannot be used haemodialysis or peritoneal dialysis may be of value.

[MARTINDALE: The Extra Pharmacopoeia].

For potassium intoxications:

- Hyperkalaemia, in patients with abnormal renal function, results from reduced renal excretion following intoxication.
 - The presence of electrocardiographic evidence of hyperkalemia or serum potassium levels exceeding 7.5 mE/L indicates a medical emergency requiring an intravenous line and constant cardiac monitoring.
 - The intravenous ingestion of 5-10 ml of 10% calcium gluconate, in adults, over a 2 minute period antagonises the cardiac and neuromuscular effects. The duration of action is approximately 1 hour. [Ellenhorn and Barceloux: Medical Toxicology].
-

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- There is no restriction on the type of extinguisher which may be used.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.

- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water courses.

Use water delivered as a fine spray to control the fire and cool adjacent area.

Cool fire exposed containers with water spray from a protected location.

DO NOT approach containers suspected to be hot.

If safe to do so, remove containers from path of fire.

FIRE/EXPLOSION HAZARD

- Non combustible.
 - Not considered a significant fire risk, however containers may burn.
- Decomposes on heating and produces acrid and toxic fumes of: hydrogen bromide.
-

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Wear impervious gloves and safety glasses.
- Use dry clean up procedures and avoid generating dust.
- Sweep up or
- Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
- Place spilled material in clean, dry, sealable, labelled container.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Control personal contact by using protective equipment and dust respirator.
- Prevent spillage from entering drains, sewers or water courses.
- Avoid generating dust.
- Sweep, shovel up. Recover product wherever possible.
- Put residues in labelled plastic bags or other containers for disposal.

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Section 6 - ACCIDENTAL RELEASE MEASURES

- If contamination of drains or waterways occurs, advise emergency services.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

potassium bromide 500 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

potassium bromide 250 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is:

potassium bromide 40 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:

potassium bromide 12.5 mg/m³

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+: May be stored together

O: May be stored together with specific preventions

X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- When handling DO NOT eat, drink or smoke.
- Always wash hands with soap and water after handling.
- Avoid physical damage to containers.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.

SUITABLE CONTAINER

Packaging as recommended by manufacturer.

- Check that containers are clearly labelled.

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Section 7 - HANDLING AND STORAGE

Glass container.

Plastic container.

Multi-ply woven plastic or paper bag with sealed plastic liner

NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse.

Plastic drum.

Metal drum.

STORAGE INCOMPATIBILITY

Avoid storage with incompatible substances.

STORAGE REQUIREMENTS

Observe manufacturer's storing and handling recommendations.

Store in original containers.

Store in a well-ventilated area.

Store in a cool, dry place.

Store away from incompatible materials.

Keep containers securely sealed.

Protect containers against physical damage.

Check regularly for spills and leaks.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

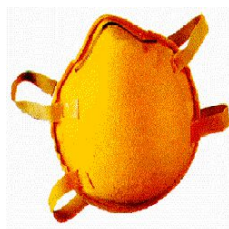
EXPOSURE CONTROLS

The following materials had no OELs on our records

• potassium bromide:

CAS:7758- 02- 3 CAS:59217- 61- 7

PERSONAL PROTECTION



EYE

• Safety glasses with side shields.

• Chemical goggles.

DO NOT wear contact lenses.

• Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

Rubber gloves.

Plastic gloves.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

PVC gloves.
Safety footwear.

OTHER

Overalls.
· Eyewash unit.
Ensure there is ready access to a safety shower.
Equipment should be kept clean and in working-order.

RESPIRATOR

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	P1 Air- line*	- -	PAPR- P1 -
50 x ES	Air- line**	P2	PAPR- P2
100 x ES	-	P3	-
		Air- line*	-
100+ x ES	-	Air- line**	PAPR- P3

* - Negative pressure demand ** - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.
For further information consult your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air)	0.25- 0.5 m/s (50- 100 f/min)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5- 1 m/s (100- 200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1- 2.5 m/s (200- 500 f/min)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5- 10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range

1: Room air currents minimal or favourable to capture

2: Contaminants of low toxicity or of nuisance value only

3: Intermittent, low production.

4: Large hood or large air mass in motion

Upper end of the range

1: Disturbing room air currents

2: Contaminants of high toxicity

3: High production, heavy use

4: Small hood - local control only

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Colourless crystal, white granules or powder. Odourless. Pungent, bitter taste. Slightly hygroscopic. Soluble in water (1gm in 1.5ml), slightly soluble in alcohol, glycerol and ether.

PHYSICAL PROPERTIES

Solid.

Mixes with water.

Molecular Weight: 119.00

Melting Range (°C): 730- 734

Solubility in water (g/L): Miscible

pH (1% solution): Approx. 7

Volatile Component (%vol): Not applicable

Relative Vapour Density (air=1): Not applicable.

Lower Explosive Limit (%): Not applicable

Autoignition Temp (°C): Not applicable

State: Divided solid

Boiling Range (°C): 1380- 1435

Specific Gravity (water=1): 2.75 @ 25 C

pH (as supplied): Not applicable

Vapour Pressure (kPa): 0.13 @ 795 C

Evaporation Rate: Not applicable

Flash Point (°C): Non flammable.

Upper Explosive Limit (%): Not applicable

Decomposition Temp (°C): Not available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
 - Product is considered stable.
 - Hazardous polymerisation will not occur.
-

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be damaging to the health of the individual. Acute oral poisoning due to bromide salts (bromism) is rare as vomiting promptly rejects the dose. Blood levels of 125 mg/100 ml are regarded as the minimum intoxicating level. Systemic effects of the bromide ion include drowsiness, irritability, ataxia (loss of muscle co-ordination), vertigo, confusion, mania, hallucinations and coma. Other effects include skin rash, neurological symptoms, sensory disturbances and increased spinal fluid

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Section 11 - TOXICOLOGICAL INFORMATION

Bromides depress the central nervous system and were once used as sedatives. They also exhibit anticonvulsant activity and were formerly employed against generalised tonic clonic seizures. Both therapeutic uses have been largely discontinued due to substitution by less toxic agents. Toxic levels of bromide can be reached very rapidly if dietary intake of chloride is reduced. Repeated ingestion of bromides may produce bromism a condition characterised by acneform eruptions, confusion, irritability, tremor, memory loss, anorexia, emaciation, headache, slurred speech, delusions, stupor, psychotic behaviour and coma.

Acute potassium poisonings following ingestion are rare because large doses usually induce vomiting and a healthy kidney ensures rapid excretion. Potassium poisoning disturbs the rhythm of the heart (a slow, weak pulse, heightened T waves on the ECG, arrhythmias heart block) and eventually produces a fall in blood pressure (due to weakened cardiac contractility). Respiration is initially accelerated but skeletal muscle weakness may bring to the stage of paralysis. Orally poisoned animals die from respiratory failure, sometimes following convulsion and gastroenteritis, dehydration of organs and early kidney damage (renal tubular necrosis). Survivors may develop loss of appetite (anorexia), excessive thirst (polydipsia), increase volumes of urine (polyuria), fever, convulsive movements and gastric disturbances within the first 24 hours; rapid recovery occurs thereafter.

EYE

Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

The dust may produce eye discomfort causing transient smarting, blinking.

SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

CHRONIC HEALTH EFFECTS

The primary routes of exposure are usually by skin or eye contact.

Chronic exposure also effects the central nervous system causing depression, drowsiness, mental instability, headache, coma, muscular weakness, endocrine effects and depression of the heart.

Pregnant women exposed to bromide poisoning may pass on symptoms to their offspring.

TOXICITY AND IRRITATION

TOXICITY

Oral(human) LDLo: 500mg/kg*

Oral(rat) LDLo: 250mg/kg* *[Manufacturers]

IRRITATION

Nil Reported

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Section 12 - ECOLOGICAL INFORMATION

No data for potassium bromide.

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA,
IMDG

Section 15 - REGULATORY INFORMATION

REGULATIONS

potassium bromide (CAS: 7758-02-3) is found on the following regulatory lists;
International Council of Chemical Associations (ICCA) - High Production Volume List
OECD Representative List of High Production Volume (HPV) Chemicals

No data available for potassium bromide as CAS: 59217-61-7.

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
potassium bromide	7758- 02- 3, 59217- 61- 7

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 16-Aug-2017