SAFETY DATA SHEET

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

Atrazine 50% SC

Shanghai Bosman Industrial Co., Limited

Product name	**Atrazine 50% SC**	SDS number	**BM-SDS-0121**
Version	**3.0**	Revision date	**03 November 2026**
Supersedes	**Version 2.1**	Print date	**03 November 2026**
Language	**EN**	Format	**GHS / CLP - 16 sections**

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

1.1 Product identifier

Trade name	Atrazine 50% SC
Product type	Suspension concentrate (SC) - plant protection product
Active substance	Atrazine (CAS 1912-24-9)

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

Identified use	Agricultural herbicide for the pre- and post-emergence control of annual grasses and broad-leaved weeds in maize and sorghum. For professional use only.
Uses advised against	Any use other than the identified use. Not for domestic or residential use. Do not use on crops or sites not stated on the label.

1.3 Details of the supplier of the safety data sheet

Supplier	Shanghai Bosman Industrial Co., Limited
Address	No. 1611, North Sichuan Road, Hongkou District, Shanghai 200080, P.R. China
Telephone	+86 21 6306 5878
Fax	+86 21 6091 1557
E-mail	info@bosmangroup.com
Website	www.bosmangroup.com

1.4 Emergency telephone number

24-hour emergency line	+86 21 6356 6528 (Shanghai Bosman Industrial Co., Limited, 24 h)
Poison centre	Contact your local poisons information centre or emergency services (e.g. 120 in mainland China) in case of poisoning.

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP), Annex I.

H317	Skin sensitisation, Category 1 — May cause an allergic skin reaction.
H373	Specific target organ toxicity - repeated exposure, Category 2 — May cause damage to organs through prolonged or repeated exposure.
H400	Hazardous to the aquatic environment, acute, Category 1 — Very toxic to aquatic life.

H410	Hazardous to the aquatic environment, chronic, Category 1 — Very toxic to aquatic life with long lasting effects.

2.2 Label elements



SIGNAL WORD
WARNING

H317 H373 H400 H410	May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Supplemental hazard statements: EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements - Prevention

P260	Do not breathe dust, fume, gas, mist, vapours or spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary statements - Response

P302+P352	IF ON SKIN: Wash with plenty of water.
P314	Get medical advice or attention if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice or attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Precautionary statements - Disposal

P501	Dispose of contents and container to a licensed hazardous-waste contractor.

2.3 Other hazards

This mixture contains no component considered to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at a concentration of 0.1 % (w/w) or higher. Atrazine is highly mobile in soil and has been detected in groundwater; it is listed in Annex III of the Rotterdam Convention.

This mixture does not contain any substance that is identified as having endocrine-disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100, at a concentration of 0.1 % (w/w) or higher.

3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable - this product is a mixture.

3.2 Mixtures

Component	CAS No.	EC No.	Concentration	Classification (CLP)
Atrazine	1912-24-9	217-617-8	500 g/L (45.5 % w/w)	Skin Sens. 1 (H317); STOT RE 2 (H373); Aquatic Acute 1 (H400); Aquatic Chronic 1 (H410) - harmonised classification, Annex VI Index No. 613-068-00-7
Formulants (dispersants, antifreeze, thickener, preservative)	Mixture	-	Balance to 1 L	None of the formulants is classified as hazardous at the concentration present

The concentration of the active substance is declared as a mass concentration (g/L) as required for plant protection products; the corresponding mass fraction is calculated using the relative density of 1.10 g/cm³ at 25 °C.

The full composition is available to medical personnel and to the competent authorities on request, in accordance with Article 24 of Regulation (EC) No 1272/2008.

4 FIRST AID MEASURES

4.1 Description of first aid measures

General advice	Move the person out of the contaminated area. Show this safety data sheet to the doctor in attendance. Never give anything by mouth to an unconscious person.
After inhalation	Move the person into fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Call a physician.
After skin contact	Take off all contaminated clothing immediately. Wash the skin thoroughly with soap and plenty of water. If skin irritation or a rash develops, seek medical advice.
After eye contact	Rinse cautiously with water for at least 15 minutes, holding the eyelids open. Remove contact lenses if present and easy to do. Continue rinsing. Get medical advice if irritation develops.
After ingestion	Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

No case of acute poisoning in humans has been reported. Repeated or prolonged overexposure may produce non-specific symptoms such as headache, nausea, dizziness and fatigue. Ingestion of large quantities may cause gastric irritation, vomiting and diarrhoea.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively. No specific antidote is known. Induction of emesis is not recommended. In cases of significant ingestion, gastric lavage or administration of activated charcoal may be considered if carried out within one hour and under medical supervision. Haematological and hepatic function should be monitored after substantial exposure.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable media	Water spray, alcohol-resistant foam, dry chemical powder or carbon dioxide. Use water spray to cool unopened containers.
Unsuitable media	Do not use a solid water stream - it may scatter and spread the fire.

5.2 Special hazards arising from the substance or mixture

On heating, the product decomposes and releases toxic fumes including hydrogen chloride, nitrogen oxides and carbon monoxide. Containers may burst when exposed to fire. Fire water run-off may be environmentally hazardous.

5.3 Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing. Contain fire water run-off; do not allow it to enter drains or watercourses. Cool closed containers with water spray. Collect contaminated fire-fighting water separately.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Wear the personal protective equipment specified in Section 8. Avoid breathing vapour, mist or spray. Avoid contact with skin and eyes. Ensure adequate ventilation. Remove all sources of ignition where the product is flammable.

6.2 Environmental precautions

Do not allow the product to enter drains, sewers, watercourses or groundwater. Prevent the material from spreading. Notify the relevant authorities if the product has entered a watercourse or sewer, or has contaminated soil or vegetation.

6.3 Methods and material for containment and cleaning up

Absorb the spill with an inert absorbent (sand, earth, diatomaceous earth, vermiculite) and place it in a labelled, closed container for disposal. Do not use combustible absorbents such as sawdust. Wash the contaminated surface with water and detergent; collect the washings for disposal. Where the product has entered a watercourse, inform the competent authority.

6.4 Reference to other sections

See Section 8 for personal protection and Section 13 for disposal.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

- Read the label and this safety data sheet before use.
- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
- Use local exhaust ventilation or adequate general ventilation to keep airborne concentrations below the occupational exposure limit.
- Avoid contact with skin and eyes and avoid breathing spray mist.
- Do not eat, drink or smoke during handling. Wash hands and face before breaks and at the end of the working period.
- Do not contaminate water, food, feed or seed by storage or disposal.
- Apply only in accordance with the approved label; observe buffer zones to surface water.

7.2 Conditions for safe storage, including any incompatibilities

- Store in the original, tightly closed container in a cool, dry, well-ventilated place away from direct sunlight and sources of heat.
- Store locked up and out of reach of children, unauthorised persons and animals.
- Store separately from food, drink, feed and seed.
- Keep away from oxidising agents.
- Shelf life is two years in the unopened, undamaged original container under the stated conditions.
- Protect from frost; if the product has frozen, allow it to thaw completely and agitate before use.

7.3 Specific end use(s)

Agricultural herbicide for the pre- and post-emergence control of annual grasses and broad-leaved weeds in maize and sorghum. For professional use only.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Component	Limit value	Type	Basis
Atrazine	5 mg/m³	TWA (8 h), inhalable fraction	ACGIH TLV; national OEL to be verified

Atrazine is not assigned a binding occupational exposure limit under Directive 2004/37/EC. The value shown is the ACGIH threshold limit value; where a national limit is in force in the country of use, that value prevails.

8.2 Exposure controls

Provide adequate general and local exhaust ventilation. Where engineering controls do not keep exposure below the occupational exposure limit, use respiratory protection. Design and maintain control systems in accordance with occupational safety and environmental legislation. Provide an eyewash station and safety shower in the immediate work area.

Protective equipment	Requirement
Respiratory protection	In case of insufficient ventilation, wear a respirator with a combination filter (type A2/P2 or equivalent) suitable for organic vapours and particulates.
Hand protection	Chemical-resistant protective gloves (nitrile rubber, butyl rubber or fluorinated rubber, minimum thickness 0.4 mm, breakthrough time > 480 min). Replace gloves at the first sign of wear.
Eye protection	Tightly fitting safety goggles (EN 166) and, where splash exposure is possible, a face shield.
Skin and body	Long-sleeved protective clothing, chemical-resistant boots and an apron. Remove and wash contaminated clothing before reuse.
Hygiene measures	Wash hands, forearms and face thoroughly with soap and water after handling and before eating, drinking, smoking or using the toilet. Shower at the end of the shift. Do not take work clothing home.

Do not allow the product to come into contact with food, drink or feed. Contaminated clothing should be removed immediately and laundered before reuse. Employees should be informed about the hazards of the product and trained in its safe handling.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Property	Value
Physical state	Liquid
Colour	White to off-white
Odour	Faint, characteristic
pH	6.0 - 8.0 (24 °C) (as supplied, 1 % dispersion)
Melting point / freezing point	Not applicable (liquid formulation); protect from frost
Boiling point	Not determined (aqueous dispersion, approx. 100 °C)
Flash point	Not flammable; no flash point below the boiling point (closed cup)
Flammability	Not classified as flammable
Vapour pressure	Not determined (aqueous formulation, approx. 2.3 kPa at 20 °C for the aqueous phase)
Relative density	1.10 ± 0.05 g/cm³ (25 °C) (OECD 109)
Solubility in water	Miscible with water
Partition coefficient (log Pow)	2.54 at 25 °C (atrazine, technical) (OECD 107)
Auto-ignition temperature	Not determined; the product is not self-heating
Decomposition temperature	No decomposition below 200 °C
Viscosity	Not determined
Explosive properties	Not explosive (assessment by structure)
Oxidising properties	Not oxidising (assessment by structure)

9.2 Other information - no additional information available.

10 STABILITY AND REACTIVITY

10.1 Reactivity

No hazardous reaction is known under the recommended conditions of storage and use.

10.2 Chemical stability

Stable for at least two years when stored in the unopened, undamaged original container in a dry, well-ventilated place away from heat and sources of ignition. The product is relatively stable in neutral, weakly acidic and weakly alkaline media.

10.3 Possibility of hazardous reactions

No hazardous polymerisation or other hazardous reaction occurs under normal conditions of use.

10.4 Conditions to avoid

Temperatures below 0 °C (freezing may cause irreversible separation), direct sunlight, sources of heat and ignition, and contact with incompatible materials.

10.5 Incompatible materials

Strong oxidising agents. Do not mix the concentrate directly with other pesticide concentrates; always dilute first. The product may flocculate in the presence of paraquat. Spray solutions should be prepared and applied in stainless steel, aluminium, fibreglass or plastic-lined equipment.

10.6 Hazardous decomposition products

Carbon oxides, nitrogen oxides and hydrogen chloride may be formed on thermal decomposition.

11 TOXICOLOGICAL INFORMATION

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

Endpoint	Result	Species / basis
Acute oral toxicity	LD50 1 866 mg/kg (rat)	atrazine, technical - not classified
Acute dermal toxicity	LD50 > 4 883 mg/kg (rat)	atrazine, technical - not classified
Acute inhalation toxicity	LC50 (4 h) > 5.8 mg/L (rat)	atrazine, technical - not classified
ATE (mixture, oral)	4 100 mg/kg	calculated from composition (CLP Annex I, 3.1.3.6) - not classified
Skin corrosion / irritation	Not irritating (rabbit)	formulation
Serious eye damage / irritation	Not irritating (rabbit)	formulation
Respiratory or skin sensitisation	Classified Skin Sens. 1 (H317)	harmonised classification of atrazine; mixture contains 45.5 % atrazine (generic concentration limit 1 %)
Germ cell mutagenicity	Negative in in vitro and in vivo assays	atrazine, technical
Carcinogenicity	Not classified	no harmonised classification for carcinogenicity - atrazine, technical
Reproductive toxicity	No adverse effect on fertility or development at non-maternal toxic doses	atrazine, technical
STOT - single exposure	Not classified	-
STOT - repeated exposure	Classified STOT RE 2 (H373)	harmonised minimum classification of atrazine; mixture contains 45.5 % atrazine (generic concentration limit 10 %)
Aspiration hazard	Not classified	-

11.2 Symptoms and effects

See Section 4.2. Atrazine has low acute toxicity by the oral, dermal and inhalation routes. Skin contact may cause an allergic skin reaction. Repeated exposure at high dose levels in experimental animals produced changes in haematological parameters and effects on the heart, liver, mammary gland and reproductive organs.

11.3 Other information

The classification of the mixture is based on the harmonised classification of the active substance (Annex VI to Regulation (EC) No 1272/2008, Index No. 613-068-00-7) and on the concentration of that substance in the formulation.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Organism	Result	Test condition
Fish, acute	LC50 (96 h) 4.3 - 100 mg/L	rainbow trout, carp, bluegill, guppy - atrazine
Aquatic invertebrates	EC50 (48 h) 6.9 mg/L (Daphnia magna)	chronic NOEC (21 d) > 0.12 mg/L - atrazine
Algae	EC50 (72 h) 0.043 - 0.13 mg/L	Scenedesmus, Selenastrum - atrazine
Bees	LD50 (oral) > 97 µg/bee	practically non-toxic - atrazine
Earthworms	Low toxicity	atrazine
Birds	Not acutely toxic at label rates	atrazine

12.2 Persistence and degradability

Atrazine is strongly adsorbed to soil organic matter and clay. Microbial degradation is the principal route of loss. The half-life in soil is 35 to 50 days, and may be longer under cold or dry conditions; the half-life under groundwater conditions is 105 to 200 days. The main metabolites are desethylatrazine and hydroxyatrazine.

12.3 Bioaccumulative potential

Atrazine has a low potential for bioaccumulation (log Pow 2.54).

12.4 Mobility in soil

Atrazine is relatively mobile in sandy and low-organic-matter soils and may reach surface water and groundwater.

12.5 Results of PBT and vPvB assessment

The substance is not considered to be PBT or vPvB. Atrazine meets the criteria for persistence in soil but not the criteria for bioaccumulation.

12.6 Endocrine disrupting properties

No endocrine-disrupting properties are identified in accordance with the criteria of Commission Delegated Regulation (EU) 2017/2100.

12.7 Other adverse effects

Do not allow the product to reach surface water or groundwater. The product is very toxic to aquatic life with long lasting effects.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of surplus product, spray tank residues and contaminated absorbents as hazardous waste through a licensed contractor. Small quantities of the concentrate may be hydrolysed under alkaline conditions (10 % w/v sodium hydroxide) before disposal; heating accelerates the reaction. Do not bury the product in landfill. Comply with national and local waste legislation.

- Do not contaminate ponds, watercourses or ditches with the product or the empty container.
- Dispose of surplus product and non-recyclable packaging through a licensed hazardous-waste contractor, in accordance with national and local regulations.
- Empty containers retain product residues and vapour; observe all label safeguards until the container has been cleaned and destroyed.
- Triple-rinse emptied containers and add the rinsings to the spray tank; then puncture or crush and offer for recycling where facilities exist.

14 TRANSPORT INFORMATION

Parameter	ADR / RID	IMDG	IATA
UN number	3082	3082	3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (atrazine mixture)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (atrazine mixture)	Environmentally hazardous substance, liquid, n.o.s. (atrazine mixture)
Class	9	9	9
Packing group	III	III	III
Environmental hazard	Yes	Yes (marine pollutant)	Yes
Tunnel code	(E)	-	-
EmS / Special	ADR 5.3.6	F-A, S-F	A97, A158

14.6 Special precautions for user

Transport only in the packaging permitted for Class 9, packing group III. The transport document must state the UN number, the proper shipping name, the class and the packing group. Ensure that the container is closed and undamaged.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable - the product is transported in packaged form only.

15 REGULATORY INFORMATION

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

- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP).
- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
- Atrazine is not approved as an active substance in the Union under Regulation (EC) No 1107/2009 (Commission Decision 2004/248/EC). This product is therefore not authorised for use as a plant protection product within the European Union.
- Atrazine is listed in Annex III of the Rotterdam Convention on the Prior Informed Consent Procedure; export is subject to the PIC notification procedure.
- Directive 2008/98/EC on waste and national implementing legislation.
- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) and the IMDG Code.
- National legislation implementing the above instruments in the country of use applies in addition.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this mixture. A chemical safety report for the active substance is available under the REACH registration dossier.

16 OTHER INFORMATION

16.1 Revision information

This version replaces the previous edition in full. The revision restructures the document into the 16-section GHS format, adds the classification and labelling elements required by Regulation (EC) No 1272/2008 (pictograms, signal word, hazard and precautionary statements), converts the composition to a tabular mass-fraction basis, completes Sections 9, 11 and 12, and removes internal formatting remarks from the published text.

16.2 Full text of hazard statements referred to in Sections 2 and 3

H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

16.3 Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ATE: Acute Toxicity Estimate. CAS: Chemical Abstracts Service. CLP: Classification, Labelling and Packaging (Regulation (EC) No 1272/2008). EC50: half maximal effective concentration. GHS: Globally Harmonised System. IMDG: International Maritime Dangerous Goods Code. LC50: lethal concentration, 50 %. LD50: lethal dose, 50 %. OEL: occupational exposure limit. PBT: persistent, bioaccumulative and toxic. PNEC: predicted no-effect concentration. STOT: specific target organ toxicity. vPvB: very persistent and very bioaccumulative.

16.4 Training advice

Users of this product must be trained in safe handling practice, in the correct use of personal protective equipment and in the first-aid measures described in Section 4. Label instructions and national training requirements apply.

16.5 Disclaimer

The information in this safety data sheet is based on the present state of knowledge and current legislation at the date of revision. It describes the product with regard to safety requirements and does not constitute a guarantee of any specific property. It remains the responsibility of the user to ensure that the product is used safely and in accordance with the label and applicable legislation. This safety data sheet is supplied for occupational health and safety purposes only.

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