

# Safety, Security, Health and Environment

Acting Responsibly Worldwide



**SCHOTT**  
glass made of ideas

# IMSU EHS

Integrated Management System for Safety,  
Security, Health and Environment



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## Safety, Security, Health and Environment as Corporate Goals

Safety, security, health and environment are of the utmost importance to the SCHOTT Group. They have been identified as top-priority objectives in the strategic corporate objectives and contribute to the preservation of entrepreneurial freedom.

On the basis of today's knowledge, we intend to define and achieve these objectives but also face up to further requirements for the future. In doing so, we will take into account not only national and global laws and regulations, but also scientific findings and requirements society has as a whole on global acting industrial operations.

The professional protection of the SCHOTT company objectives is living obligation for the corporate board and management of SCHOTT as well as the expression of our claim for highest quality and a leading market position. This guideline for an integrated management system for safety, security, health and environment – IMSU/EHS – and the principles it contains will form the basis of the long-term policies and strategy of the SCHOTT Group.

The minimum requirements are defined bindingly by the IMSU/EHS standards for all SCHOTT sites world wide.

By consequently implementing this guideline, we expect to achieve a sustainable improvement in our competitive position and we document our striving for integrity and as an innovative technology concern.

The guideline for safety, security, health and environment concerns all employees in the SCHOTT Group. It commits all of them to help form the system and to implement and observe the specifications and to contribute to the continuous improvement process.

Management Board of SCHOTT

## Systematic Improvement is the Goal

The safety and health of people, the protection of the environment and the averting of external dangers are important corporate goals of SCHOTT. The “Integrated Management System for Safety, Security, Health and Environment” – IMSU/EHS in short – provides the set of rules and the organizational framework to achieve this goal. IMSU/EHS is binding for all units and all employees of SCHOTT worldwide.

### RESPONSIBILITY TOWARDS SOCIETY AS A WHOLE

The Corporate IMSU/EHS guideline specifies that:  
“The economic benefits of our actions may not be achieved at the expense of personal safety, security, health and environmental protection. The recommendations contained in laws and directives are considered to be minimum requirements. We refrain from undertaking acts that are illegal or that prevent fair competition.”



SCHOTT clearly wants to go further and has set standards for the prevention of air pollution, water treatment and the reduction of energy consumption in the special glass industry.

### REDUCE CONSUMPTION OF ENERGY AND RESOURCES

Using less energy and lowering our consumption of resources will always be an important focus of what we do. SCHOTT continues to lower its specific energy requirement of melted glass by making a host of improvements to process sequences and using pure oxygen for firing. This will result in a significant reduction in emissions of nitrogen oxides that harm our environment.

Compliance with the environmental management system standard ISO 14001 and the energy management system standard DIN EN 16001 is a component of our environmental policy.

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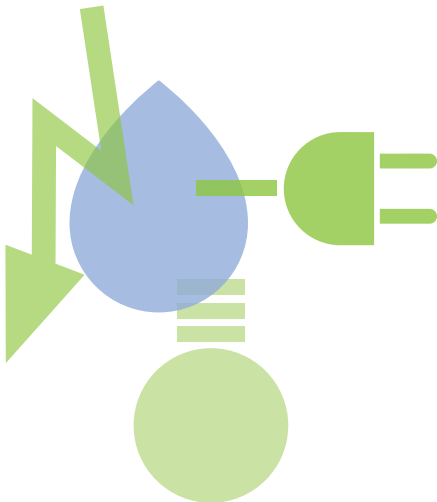
#### Drawing balance

(e.g. for melting tanks in Mainz, Germany)

- Melting tank waste gases are over 99.5 % dust-free
  - Nitrogen oxide emission levels have been lowered by about 75 % since 1990
  - The specific energy requirement per ton of glass has been lowered by more than 25 % since 1990
  - The consumption of fresh water for manufacturing has been lowered by over 80 % since 1989
  - 98% of the glass that breaks during manufacturing is recycled
  - In order to reduce emission levels, the melting tanks are heated using natural gas/oxygen (oxy-fuel) or electrical power
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The IMSU/EHS system follows specific goals in the areas of safety, security, health, environment and averting external danger (e.g. emergency preparedness). They include the continuing improvement of occupational safety and health protection as well as the ongoing optimization of the environmental compatibility of products, of emission control, water and soil protection, as well as waste management. This is complemented by the conscientious handling of energy and raw materials, as well as by plant safety and effective risk management.

The introduction of IMSU/EHS is carried out by the units under their own responsibility. The process begins with a status audit and, via a multi-stage implementation program, leads to the creation of the IMSU/EHS management system. The exact measures depend on legal requirements and the specific environmental and occupational health and safety risks. These can differ considerably at glass melting facilities and glass processing units. The introduction of the system ends with a comprehensive audit and the internal IMSU/EHS certification.



### **IMSU/EHS BENEFITS EMPLOYEES, COMPANY, CUSTOMERS, AND SOCIETY**

IMSU/EHS pays. The employees benefit from high standards of occupational safety, security, health and environment. For the company, IMSU/EHS provides an effective risk management tool with a high degree of organizational, process and legal security. The introduction of IMSU/EHS also offers great savings potential in many areas. Our customers will benefit from the continually improved environmental compatibility of our products, and society will benefit from the ongoing improvement in the environmental situation.

Apart from high standards in the areas of occupational health and safety and emergency preparedness, IMSU/EHS also guarantees compliance with the international environmental management system standard ISO 14001 and the occupational health and safety management system OHSAS 18001 as well as energy management systems standard DIN EN 16001. Should the market require it, or customers so desire, the SCHOTT units can, in addition to the internal IMSU/EHS certification, also be certified externally according to ISO 14001, DIN EN 16001 or OHSAS 18001.

## Structure of the IMSU/EHS System

The documentation of the IMSU/EHS system is divided hierarchically into three levels.

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### Level 1: Corporate Guideline

Issued by: Corporate Management Committee (KL)

- defines minimum standards
- applies to the entire SCHOTT Group worldwide

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### Level 2: Directives or Manuals

Issued by: General Managers of the Business Units (BU), Business Segments (BS) and the Combined Sites in the SCHOTT Group

- apply to the managers of subordinate organizational units of the respective BU, BS or Combined Sites

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### Level 3: Instructions

Issued by: Managers of organizational units within the respective company

- apply to managers/staff of organizational units involved

The manager of a production plant is also responsible for IMSU/EHS. He appoints an IMSU/EHS Representative who promotes the implementation and further development of the IMSU/EHS system.

Each manager is responsible for safety and environmental protection in his or her area of responsibility. The fundamental duties of a manager include clearly allocating responsibility, selecting suitable employees and making sure that they are trained and qualified, as well as supervising activities, including the operation and maintenance of plant and equipment.

The effectiveness of the environmental management system must be reviewed regularly, and deviations from targets rectified. The corporate IMSU/EHS auditors audit the system and provide basic information for the internal IMSU/EHS certification and the continuous improvement of the system.

## Guiding Principles for Safety, Security, Health and Environment

The core of the Corporate IMSU/EHS guidelines issued by corporate management, are eight principles. They define SCHOTT's strategic goals concerning safety, security, health and environment.

### 1. RESPONSIBILITY TOWARD SOCIETY AS A WHOLE

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#### Excerpt from the SCHOTT Core Values

- Integrity and Responsibility
- Walk the talk – back up words with actions
- Respect people
- Contribute to a safer environment

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No matter how big the profits or sales revenue, SCHOTT is an integral part of human society and will always act reliably and with integrity.

As far as safety, security, health and environmental protection are concerned, this means that the SCHOTT Group will accept the challenges involved in protecting the environment, and actively contribute to solving the problems this

poses. SCHOTT intends to be a model of environmental protection and practises an open information policy towards its stakeholders, its staff, its market partners, the official authorities and the general public.

Every manager must act as a role model and adhere to the vision and core values of the SCHOTT group.

The economic benefits of our actions may not be achieved at the expense of personal safety, security, health and environmental protection. The recommendations contained in laws and directives are considered to be minimum requirements. We refrain from undertaking acts that are illegal or that prevent fair competition.

## 2. SAFETY AND HEALTH

The safety and health of its employees at the workplace has the highest priority for SCHOTT. This includes the maintenance and constant improvement of standards in the areas of work and workplace safety as well as health protection.

The job environment must meet the requirements of a health-oriented organization. All employees must pay constant attention to work safety. Each individual bears a joint responsibility to support SCHOTT in its efforts to create a safe working environment.

All supervisors are responsible for protecting their employees and must instruct, train and supervise them accordingly. All supervisors must determine and analyze dangers or stress situations that the people reporting to them might be under; they must assess the risks and organize medical preventive measures.

All supervisors, including the employees responsible for work processes, must make sure that all rules and regulations, in particular in the area of safety and health protection, in the provision of working tools for use in the workplace, regarding the operating safety of monitored equipment and the organization of industrial safety standards (workplace safety regulations) are complied with.

## 3. ENVIRONMENT

The protection of the environment and the natural resources are high-priority company goals for SCHOTT. All employees must contribute to these goals through their behavior. Based on the commitment of all employees and the respective leadership role of the management, SCHOTT wants to act in an environmentally friendly way and work constantly on improving the ecological balance. Environmentally friendly design, technical safety and protection of health are goals that are already pursued during the product development stage. Our goal is to minimize and eliminate water, air and soil pollution. That is why environmental compatibility is a determining factor when we select and use materials, technologies and production methods. Wherever possible, we will substitute raw materials, which are potentially hazardous, with less hazardous products. We will help develop the state of the art in environmental protection by applying new technologies and scientific solutions during the design phase of project. Emissions into the air and water must be minimized; waste avoided or recycled, or at least correctly disposed of.

## 4. RESOURCE CONSERVATION

Commercial processes must be economically optimized and arranged in such a way that they require fewer raw materials and less energy. We must continually check our total throughput of materials and energy to see that we are operating at a low level of consumption. Recycling capability is already an important criterion when it comes to developing products or selecting materials. We will attempt to set up closed loops for all the resources we use.

## 5. ENVIRONMENTALLY COMPATIBLE PRODUCTS

Products manufactured by the SCHOTT Group should be safe, problem free for the user, and capable of being recycled or disposed of without undue burden to the natural environment.

## 6. SAFETY OF THE PLANT AND EQUIPMENT

The planning, construction, operation and upkeep of our plant and equipment must meet all requirements for safety, health and environment. In addition, SCHOTT is aiming to occupy a leading position in the glass industry in the area of safety and environmental protection by continually improving its processes and seeking optimized solutions.

## 7. LOGISTICS THAT ARE SAFE AND DO NOT HARM THE ENVIRONMENT

Handling, storing and shipping materials and products must meet all technical safety requirements. Packaging and auxiliary packing materials must be limited to the required minimum and be capable of being reused. Transportation equipment is employed observing environmental aspects.

## 8. SECURITY (AVERTING OF EXTERNAL DANGER)

As a globally operating company SCHOTT and its employees are exposed to a multitude of external dangers, such as normal crime, terrorist attacks, kidnappings as well as constantly increasing economic and industrial espionage. Additional dangers might come e.g. from natural catastrophes and disruptions of the infrastructure necessary for the company.

With the help of IMSU/EHS, SCHOTT creates the conditions for the ongoing effective protection of its employees, operating equipment and other company assets, including its operating and professional trade secrets, against such dangers. All employees are called upon to protect SCHOTT and its employees against these dangers to the best of their abilities and in accordance with the IMSU/EHS guidelines.



## Acting Responsibility Worldwide

All SCHOTT production plants and all Joint Ventures with SCHOTT managerial responsibility are integrated into the IMSU/EHS system. The implementation of the IMSU/EHS system takes three to four years and is supported by the corporate IMSU/EHS auditors.

The main contents of the IMSU/EHS system are:

### OCCUPATIONAL HEALTH AND SAFETY

- Supplying preventive health care through regular medical checkups and programs.
- Reducing risks related to specific workplaces through technical protective measures.
- Improving personal safety awareness through regular training and instruction.

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## ENVIRONMENT

- Paying close attention to the environmental compatibility of building projects, production facilities and processes.
- Optimizing the use of raw materials, water and energy in order to protect our environment (e.g. by implementing DIN EN 16001).
- Protecting air, water and soil through product-related technical and organizational measures.
- Continually developing new strategies for avoiding waste.

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## HANDLING MATERIALS AND PRODUCTS

- Taking safety and environmental aspects into account when developing new products and processes.
- Promoting the further development of safe and environmentally compatible products to increase customer benefit.
- Orienting purchasing activities towards environmentally compatible goods and materials.
- Optimizing internal and external logistics.

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## SAFETY OF PLANT AND EQUIPMENT

- Ensuring safety and environmental protection throughout the lifetime of plant and equipment in accordance with legal requirements.
- Specifying operator responsibility as well as the responsibilities for the construction, operation, maintenance, closing down of plant and equipment, and in the case of malfunctions.
- Monitoring technical safety by means of regular inspections and maintenance.

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## AVERTING OF EXTERNAL DANGER (SECURITY)

- Specifying rules for access and behavior.
- Developing technical and organizational measures to master emergencies.
- Establishing an effective reporting and decision-making system for emergencies.

- Effective safeguarding of material assets through property protection measures.
- Preventing and controlling fires.

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## ORGANISATION

- Formulating clear and unmistakable rules regarding tasks, authority and responsibilities, as well as the interaction of line, staff and representative functions.
- Providing rules for persons substituting for those with safety, security, health and environmental responsibilities.
- Systematizing and documenting steps taken and results achieved.

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## COMMUNICATION

- Communicating actively with internal and external target groups.
- Informing the general public of current results of IMSU/EHS

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## EMPLOYEE QUALIFICATION

- Ensuring training and instruction of employees in safety, security, health and environment.
- Providing instruction and further training programs.
- Committing all employees to the objectives of safety, security, health and environment and motivating them to follow these objectives.

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## MONITORING AND IMPROVEMENT

- Implementing a system of regular audits of all SCHOTT production plants that is based on internationally recognized standards as well as on SCHOTT's core values
- Systematic target setting and reporting to company management.
- Monitoring the system with respect to its application and effectiveness, and making appropriate corrections when specified targets are not met.

**SCHOTT**

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