C146-E285

SHIMADZU
Excellence in Science

Screening System for Phthalate Esters

Py-Screener

Making the Difficult Simple

The Py-Screener system is designed to screen for phthalate esters in polymers. The use of phthalate esters in toys and food packaging is currently restricted. Moving forward, they are expected to be regulated as restricted substances under the Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS (II) Directive) in Europe. The pyrolyzer GC/MS (Py-GC/MS) is used to selectively detect and quantify phthalate esters thermally extracted from samples. This screening system consists of a sampling toolkit, special standards, and special software and can be easily operated even by novices.

Easy to Operate Even for Novices

Organics Solvents Are Not Required for Sample Preparation.

Analytical standards and test samples can be prepared without using organic solvents. To prepare a sample, just use the cutter to remove a portion from the test material, place it in the sample cup, and weigh it. Sample preparation videos provide support so that even novices can easily prepare samples.

Preparation of a Phthalate Ester Standard

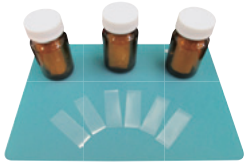
Preparation of a Test Sample

Sample Preparation Videos

All Required Items Are Available.

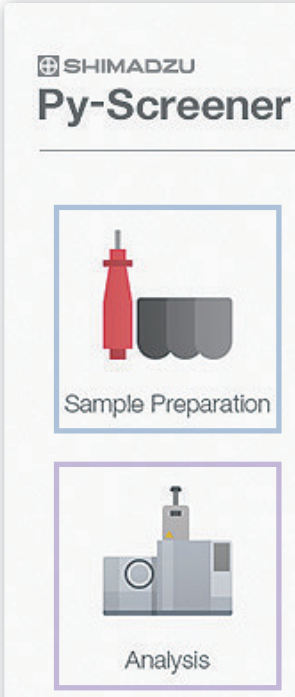
Special Standards Developed in Cooperation with SGS Japan Toolkit Required for Sample Preparation

The analytical standards for this system were developed in cooperation with SGS Japan, the market leader for RoHS tests. Standards for sensitivity confirmation, quantitation, and blank tests can be prepared simply by punching out a portion of a standard material using the micro puncher. A toolkit used for preparing samples has been created with Frontier Laboratories Ltd.



Standards Containing Phthalate Esters for Py-GC/MS

Sampling Toolkit



Easy to Operate Even for Novices

Easy to Operate Using Special Software

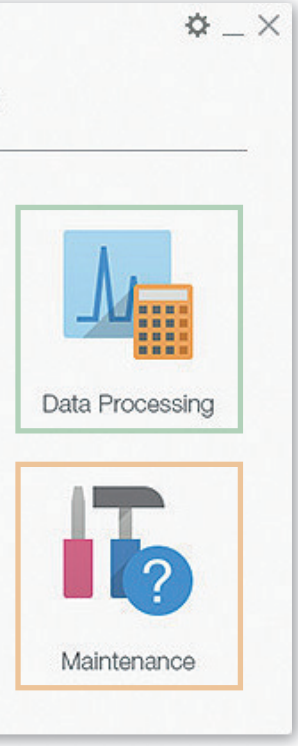
Using customized software, operations are easy, even for novices. To automatically start continuous analyses, just place the prepared standards and test samples in the autosampler, and enter the number of samples, the sample names, and their weights. Continuous measurements can be performed overnight, so approximately 30 samples can be measured per day.

	Vial#	Sample Name	Sample Amt.
1	1	Blank_Cup	0.5
2	2	Phthalate_STD_Blank	0.51
3	3	Phthalate_STD_100	0.51
4	4	Phthalate_STD_1000	0.51
5	5	ERM-EC591	0.51
6	6	Test_Sample	0.51
7	7	Test_Sample	0.51
8	8	Test_Sample	0.51
9	9	Test_Sample	0.51
10	10	Test_Sample	0.51

Easy to Operate Even for Novices

Tabular Display of Concentrations and Criteria Clarifies the Results.

The concentrations of target components detected in continuous measurements are displayed in a table and color-coded using criteria based on concentration ranges. The results for continuously measured test samples can be checked at a glance. Also, the system is equipped with accuracy control functions in order to ensure the reliability of blank concentrations, instrument sensitivity, and other data, so even novices can feel confident that they are reporting reliable measurement results.



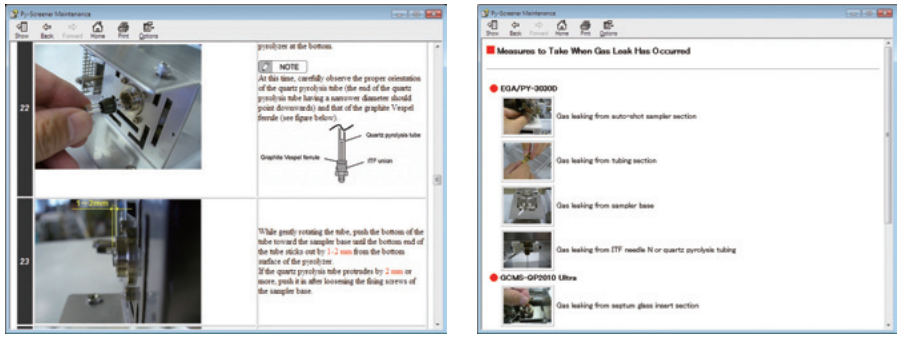
Py-Screener Software

The special software displayed on the monitor helps you navigate the required procedures.
Even novices can operate the system using the software.

Ample Maintenance Support

Maintenance Navigation Supports Long-Term Operation with Periodic Replacement Kits

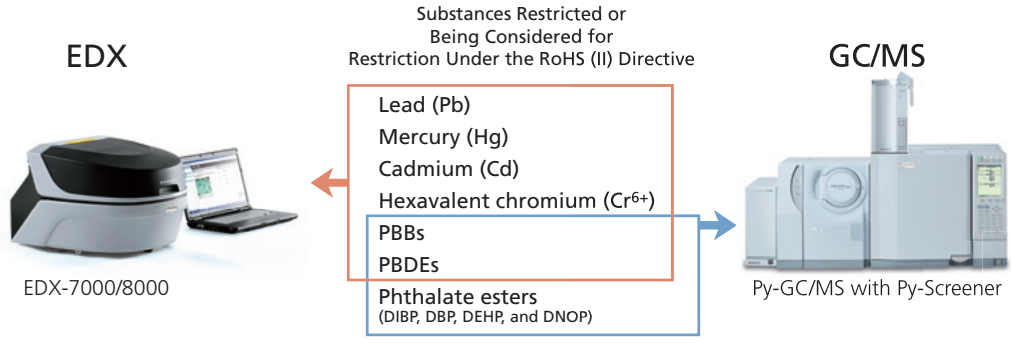
Using the Maintenance Navigator, the procedures appropriate for pyrolyzer and GC/MS maintenance can be performed easily and confidently. Procedures for locating and resolving leaks are included, and kits with common replacement parts simplify maintenance and troubleshooting procedures.



Maintenance Navigator Windows

A Total Solution Proposed by Shimadzu for the RoHS (II) Directive

This system can be applied to polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs), two types of brominated flame retardants already regulated under the RoHS (II) Directive.
In addition to this system, Shimadzu provides an X-ray fluorescence spectrometer for inorganic compound screening and various other analytical systems for accurate quantitation. These systems provide a total solution for everything from screening to the accurate quantitation of substances already regulated under the RoHS (II) Directive, and substances for which regulation is anticipated.



Applicable Systems and Software

GC/MS	: GCMS-QP2010 Ultra
Pyrolyzer	: EGA/PY-3030D multi-shot pyrolyzer
Autosampler	: AS-1020E auto-shot sampler
GC/MS Workstation	: GCMSsolution (Ver. 4.30 or later) + LabSolutions Insight
Py Workstation	: EGA-PY3030 program (Ver. 1.54 or later)

Caution
1. Note that there are no guarantees regarding the accuracy of the information contained in the method files, or the usefulness of the information obtained from the results of their use.
2. In order to accurately identify the registered substances, perform the measurements using the system conditions in the method files contained in the product.

Shimadzu Corporation
www.shimadzu.com/an/

Printed in 3655-02508-10AIT